Stereo Review

HOME RECORDING

HOW-TO TIPS FOR TERRIFIC TAPES

BUYING GUIDE: ANALOG AND DIGITAL RECORDERS

A NEW LOOK AT THE INTEGRATED AMPLIFIER

10 WAYS TO MAKE YOUR SHOPPING HASSLE-FREE

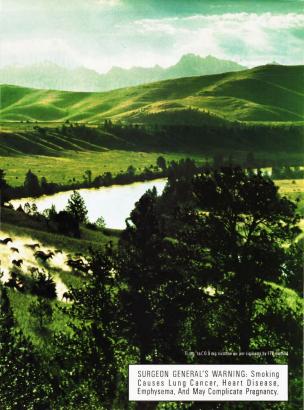
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Allison Speaker
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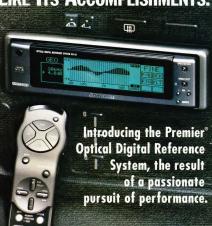
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The first step to good homemade tapes is investing in a good recorder, such as the Teac W-6000R cassette deck shown here atop Onkyo's A-SV810PRO integrated amplifier. See page 81 for our Home Recording Buying Guide, page 60 for taping tips, page 77 for a look at integrated amps.

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Stereo Review

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A practical guide to home recording - by Steve Schwartz

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Tape Recording

Buying Guide Features, specs, and prices for analog and digital recorders, blank tapes and discs . by Bob Ankosko, José Garcia, and staff



Richard Thompson

Let's get one thing straight-despite his reputation as a gloom-monger, Thompson doesn't write depressing songs • by Brett Milano



Best Recordings of the Month

Red Shoes," Kevin Montgomery makes some American music, Isaac Stern and Yefim Bronfman set a new standard for Brahms sonatas, and Eliahu Inbal leads the Vienna Symphony in a stunning Shostakovich Third

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Home theater, surround for music, audio-equipped

multimedia computers and TV-based systems, and hightech audio shared the spotlight at the 1994 Winter Consumer Electronics Show held recently in Las Vegas. Home theater/surround

sound: The response to demonstrations of Dolby Surround Digital, the discrete six-channel digital format and designated successor to the current Dolby Surround system, was overwhelmingly positive, leaving many to speculate about its role in the future of home audio and video. Unlike previous theatrical previews, the AC-3-based system was demonstrated using prototype consumer gear. . . . Among the hordes of new products was B&O's first home theater system, built ground the \$2,000 AV 7000 surround-processor/amp. Atlantic Technology had a few tricks up its sleeve, too, including a center-channel speaker with timbre controls. ... THX disciples welcomed a

new product category-the THX receiver. Onkyo plans to offer a \$2,000 model in May and Technics a \$1,200 one this fall....Sanyo demonstrated a prototype 40-

ENDURING FAME

The National Academy of Recording Arts and Sciences (NARAS) has accepted into its Hall of Fame the following recordings: Crazy Blues by Mamie Smith and Her Jazz Hounds (Okeh 1920): Kurt Weill's Threepenny Opera with Lotte Lenya (MGM 1954); Miles Davis's "Miles Ahead" (Columbia 1958); Tony Bennett's I Left My Heart in San Francisco (Columbia 1962); Bob Dylan's "Blowin' in the Wind" (Columbia 1963), and the Beach Boys' "Good Vibrations" Capitol (1966).

At the Academy's 36th annual Grammy Awards on March I, a NARAS Lifetime Achievement Award will be presented posthumously to the classical pianist Artur Rubinstein (1887-1982) for his many artistic contributions to the recording medium. The awards program, with Garry Shandling as host, will be telecast on CBS from Radio City Music Hall in New York City from 8 to 11 p.m. Eastern time.

inch rear-projection TV that produces a 3-D effect without requiring viewers to wear special glasses.... Go Video demonstrated the GV-3090WS dual-well VCR, featuring an onboard Dolby Pro Logic decoder and an RF transmitter for broadcasting the surround signal to a pair of wireless speakers (included); the \$1,500 deck is

due in stores by June. New formats: Sony

announced that 50,000 MiniDisc machines were shipped to dealers in the U.S. last year and unleashed a barrage of new MD products, including the shirt-pocketsize MZ-E2 player (\$550) and MZ-R2 recorder (\$750), due in stores this spring. Sharp showed the MD-M11 handheld MD recorder (\$750), which is due in April. . Except for the \$599 RS-DC8 recorder and a DCC-based minisystem from Technics. the DCC camp was quiet.

Audio: Carver showed the first "load independent" stereo power amplifier, the 300-watt Lightstar. It's slated for retail delivery in May at a price of \$3,000. . . . Luxman unveiled two new product lines, the 300 Series and the high-end Ultimate Series, and announced that they will be distributed by Minneapolis-based Canton

Electronics.... Triad demonstrated a line of inwall, servo-controlled powered subwoofers ranging in price from \$500 to \$1,500. . . In-wall-speaker pioneer Sonance showed its first

cabinet speaker, the Director 20, featuring a 61/2-inch coaxial driver with a pivoting tweeter; the \$300 speaker goes to stores in April. Multimedia: The presence

at CES of IBM, Compaq, Microsoft, Intel, and scores of other computer hardware and software companies signaled the growth to come in this fledgling category. . . . On the TV-based side, Philips announced that 200,000 CD-I machines were sold worldwide last year. . . . 3DO demonstrated forty-three multimedia titles in its format and said it hoped to deliver one hundred by year's end. Panasonic's \$700 FZ-1 3DO Interactive Multiplayer is the only 3DO player currently available, but Sanyo and AT&T are expected to market 3DO machines later this year.

Autosound: McIntosh took its audiophile tradition to the streets by launching a full line of car speakers and electronics, including three amplifiers that employ its patented PowerGuard distortion-limiting circuitry. ... Phoenix Gold showed a

prototype car subwoofer encased in clear acrylic that uses a unique "rotating radiator" Don't miss "Showstoppers" next issue for our editors'



verdict on the cream of the Winter CES crop.

AIDS AWARENESS USA Mary-Chapin Carpenter, Mark Chesnutt, and Kathy Mattea are prime movers among the country-music

stars engaged in a new AIDSprevention campaign aimed primarily at audiences in the Southern states and in rural America, where AIDS is spreading fastest. Randy Scruggs is the musical supervisor of "Red

Hot + Country," an AIDS benefit album modeled on the pop album "Red Hot + Rlue" (which won a Record of the Year Award from STEREO REVIEW in 1992). "Red Hot + Country" is due from Mercury this spring. In addition to Carpenter, Chesnutt, and Mattea, performers on the CD include Billy Ray Cyrus, Brooks and Dunn, Radney Foster, Dolly Parton, and Marty Stuart.

HIGH PROFILES In Britain's New Year's

Honors, the singer Shirley ("Goldfinger") Bassey was made a Commander of the British Empire. . . . At the Image Awards of the National Association for the Advancement of Colored People (NAACP), Michael Jackson was dubbed Entertainer of the Year. Mr. Blackwell's 1994 list of the world's worst-dressed women included the singer Diana Ross. She came in third, after the actresses Glenn Close and Julia Roberts.





Dragon: The Bruce Lee Story	*1150705	Terminator 2: Judgment Day	*0233205
Made In America	*1150606	The Sound Of Music	*0003905
Sleepless in Seattle	*1154905	The Abyss	*088110
Sliver	*1147008	Die Hard	*0367803
Benny & Joon	± 1108307	Die Hard 2: Die Harder	*0041806
Home Alone	+0104208	Under Siege	*1077908
Home Alone 2:		DasicInstinct	*1633208
Lost in New York	1104900	National Lampoon's	
Scarface (1983)	0216804	Animal House	021150
Snaakers	*1071604	The Last Boy Scout	*077910
The Godfelher	0000002	Chinatown	*020250
The Godfather Part III	D842302	Fried Green Tomatoes	100540
The Wizard Of Oz	0001404	Jame	010000
The Bodyguard	*1105907	Bugs Bunny Classics	029770
The Bluss Brothers	0211706	North By Northwest	*084420
My Cousin Vinny	1033109	Conen The Barbarian	*022050
Lawnmower Man	1014505	The Man Who	
Dune	0211102	Would Be King	*008580
Goodfellas	*0969906	The Empire Of The Sun	+063020
Back To The Future	*0211409	New Jack City	097150
Back To The Future II	*0921304	Forever Young	*110430
Back To The Future III	*0497008	Boomerang	*106400
Batman (1989)	*0642504	Hard To Kill	095350
Batman Returns	*1029909	Death Becomes Her	*107150
Howard's End	*1102905	Beetlejuice	063300
Madonna: Truth Or Dare	*0232900	The Addams Family	*100090
Madoone		The Commitments	089130
The Immegulate		Scent Of A Woman	*112130
Collection	0983403	Rear Window	021340
Field Of Dreams	0920306	The Hunt For	
Indecent Proposal	*1142009	Red October	+082500
Point Of No Return	*1127109	Backdraft	+055900
Return Of The Jedi	+0354704	The Silence Of The	
A Few Good Nen	*1106301	Lambs	080530
Unforgiven (1992)	*1084003	Patriot Games	*105130
The Lest Of		Allen	000020
The Mohicens (1992)	*1071406	Allens	0.36090
Dances With Wolves	*0805200	Allen 3	*104250

PLUS 1 M	
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The Empire Strikes Back*

Predator 2	*0104307
Top Gun	0425906
1001: A Space Odyssey	+0844308
Passenger 57	*1087709
.T.: The Extra-Terrestrial	0581105
ethal Weapon	0630806
ethal Wespon 2	*0642702
ethal Wespon 3	*1051507
Reging Buil	*0050005
Pink Floyd: The Wall	*0258004
ric Clapton: Unplugged	1038405
The Hunger	*0255505
Ging Kong 10th Anniversary Edition	1021005
Reservoir Dogs	*1106905
lield of Dresms	0920006
Lesgue Of Their Own	*1078005
ar & Away	*1046507
Uwaya	*0921502
The Prince Of Tides	*0847103
Petton	0788703
Fatal Attraction	0439307
Nook	*0854307
Toys	*1103308
Star Trek — The Motion Picture	*0203505
Star Trek II The Wrath Of Khan	*0201301
Star Trek III — The Search For Spock	*0201608
Star Trek IV The Voyage Home	*0430603
Star Trek V The Final Frontier	*0448605

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AE

LETTERS

Equipment for Music Only

ichael Klasco's "Acoustical Tune-Un in January was quite good in describing how to get rid of unwanted sound reflections, but he did not get into the room interactions of different speaker designs. Some speakers use reflections from the walls behind them to increase realism, and others use narrow-angle vertical dispersion to eliminate ceiling and floor echoes. Which is best for music-only listening as opposed to movie soundtracks? Is there a better approach to building a sound system for music listening only rather than one for both audio and video? Do I need either DSP or Dolby Pro Logic for true reproduction of music? How many channels do I need? RICHARD SCHULKIND Sharon, MA

In general, reflections off the walls are less problematic than reflections off the floor and ceiling, and, in fact, people prefer to hear some sound arriving from the sides. In twochannel stereo this lateral sound is provided by reflections of the output from a pair of speakers at the front of the room; in surround-sound systems, whether based on Dolby Surround or DSP ambience enhancement, it comes predominantly from additional speakers placed for that purpose. Whether it is desirable to restrict the vertical dispersion of front speakers depends more on whether they can be placed at ear level than on what type of program they will reproduce.

Very few music recordings are encoded for Dolby Surround, though the number is growing, so if you're not interested in playing movie soundtracks you probably don't need Dolby Pro Logic. Good multichannel ambience enhancement is very nice, though, and in the future we expect there will be a move to discrete multichannel digital recording for both music and soundtracks. In short, for listening strictly to music you probably would be quite happy with a good two-channel stereo system. You probably would be even happier, though, with four or more speakers fed from a high-quality DSPbased ambience-enhancement system.

Audio Cables

ost people who buy audio/video systems aren't physicists and have to rely on very subjective and opinionated evaluation equipment-their ears! But in January "Technical Talk," about audio cables, Julian Hirsch contends that "believing is hearing" and that we are brainwashed into conclusions about sound quality that are

pure nonsense." Perhaps Mr. Hirsch can't hear the difference between audio cables, and that's fine. He's saving lots of money using 16-gauge zip cord in his system. But allow us hobbyists to "fool" ourselves into purchasing cables that make our systems sound better. I say "the Emperor" does have new clothes, and audio cable can make a significant difference in the performance of a good hi-fi STEVE SWANK Bellingham, WA

hanks to Julian Hirsch for telling it like it is in "Audio Cables: Fact and Fiction." I have always suspected the claims for these overpriced cables and guided myself accordingly. For line-level cables between components feeding the amplifier I have always used, without any problems, the least expensive Radio Shack cables. For speaker wire I went to Sears and bought outdoor 16-gauge wire. To my ears my system is performing perfectly. JULIUS BRODSKY S Ozone Park, NY

Digital Dubbing Rights

ne major issue has been left out of the discussion about the Serial Copy Management System (SCMS). If I record a demo tape, a local concert, or another original work using a DAT deck (or another type of digital recorder), I am limited to making first-generation digital copies. If I want to edit a digital copy of the original and use that as the copying master. I am stuck because of SCMS unless I buy a digital mixing board and turn it off. Is there any hope for DAT users like me? GARY CHAMBERT AIN Warner Robins GA

Professional DAT decks are not required to honor SCMS, so that would be an option. Pro models do typically cost more than consumer decks, however. If you're careful, going through a cycle of digital-to-analog-todigital conversion will entail little or no loss of sound quality: that might be the most practical solution, if not the ideal one,

Powering a Subwoofer

ceember's "The Lowdown on Sub-woofers" was ambiguous regarding power needs. How much power should a subwoofer get? The same amount as the main channels? Or would less be sufficient since it handles only a small fraction of the music? CHRIS D. LUBERTO Nesconset, NY

The article was ambiguous on that point because it is not possible to be more definite. It depends on the relative sensitivities of the main speakers and the subwoofer, the crossover frequency between them, the low-bass



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content of the music typically played on the system, and so forth.

More on Surround EQ

In a reply to two letters in December, you said that equalization can be used with no negative effect on the surround-sound experience "so long as it is applied to the signal after decoding rather than ahead of it." Wouldn't that always be the case? Doesn't the signal always go through the equalizer after passing through the amplifier?

Also, we are usually told that Dolby Pro Logic should be used only for movie soundtracks that were mixed (or remixed) for surround sound. But wouldn't any stereo soundtrack, even an older one, benefit from being played in Pro Logic mode in order to anchor the dialogue to the screen?

Finally, some CD's, including all-instrumental recordings, have been issued in Dolby Surround. When the sound of a symphony orchestra is played with Dolby Pro Logic decoding, what comes out of the center-channel speaker? Wouldn't it be better to play such a recording in another surround mode such as Hall? MICHAEL PORTANTIESE. New York, NY

An equalizer never goes after an amplifier. It might be placed between a preamplifier and power amplifier-or between a surround decoder and a power amplifier. Usually, however, equalizers are connected to a tape loop or external-processor loop, which would be immediately downstream of the receiver or preamplifier's input selector and ahead of any other circuitry. There's nothing to prevent you from switching in a Dolby Pro Logic decoder on any program material, even plain music. What you will get with programs not specifically encoded for Dolby Surround playback is a shifting of the stereo image toward the center, possibly other slight image inaccuracies, and somewhat undependable behavior by the surround speakers. which may not sound right all the time

A music release mixed for Dolby Surround playback should have a very firm center image. In order for the imaging and the frequency response of the surround channels to come out right, however, it really should be played through a Dolby Pro Logic decoder. Any added ambience effects should be introduced after decoding.

In response to Deric Christensen's letter in December, you said, "If you just want to use an equalizer for ordinary stereo listening ... put it into the tape-monitor loop, where it can be easily switched in and out of the system. Just make sure it's bypassed when the surround decoder is engaged."

Why? I leave my equalizer on because I at the state of th

be ahead of the surround processor and therefore is best not used when the processor is engaged. The reason for not equalizin before decoding is that Dolby Pro Logic interview of the Computer of the virtual conput channels according to their relative amputed and polaries of the confedence of the principal and equalizer can change those input signal. An equalizer can change those input signal. An equalizer can change those input signal. An equalizer can change those input signal and expenditure of the conputer of the computer of the computer of the their channels. Some AV receivers provide the recessary connections, others don't. And the change of the computer of the four channels, unless you acknowledge of the four channels, unless you acknowledge.

Illogical MD Pricing?

n a local record store recently, I noticed a lease and Indigital record. In a lease a reputable or chestra—editing control of the control of

Prerecorded and recordable MD's are quite different. The magnetio-optical recordable discs are considerably more expensive to manufacture than the prerecorded kind, which are pressed the same way as CD's and cannot be erased and re-recorded. This situation may improve, but Sony does not expect much change this year.

Whose Tattoo?

hank you for publishing my letter in December ("Bittoo Who") about Parke Puterbaugh's Porno for Pyros review, in which he compared that group to Van Halen, described as "fronted by an obnoxious, and the publishing of the property of the property of the property of the property of the profit of the nincompoop presently or formerly forting Van Halen has a tattoo. After my letter appeared, it was brought to my attention that Sammy Hagar. Van Halen's current fromman, does, in fact, have a tattoo. I stand corrected.

Montgomery, AL.

Readers John Martinetto and Michael Delara also told us about Mr. Hagar's tattoo.

Correction

the test report on the Nakamichi MB-84 CD changer in February incorrectly stated that its loading drawer can be opened while a disc is playing. That is not possible. Also, the text mentioned an incorrect price. The correct price is \$399, as given in the accompanying box.

We welcome your letters. Please address correspondence to Editor, Stereo Review, 1633 Broadway, New York, NY 10019. You should include your address and telephone number for verification. Letters may be edited for clarify and length.



READ

JVC KD-GT7 3-CD in-dash changer receiver buy it in March, April, or May and choose three free RCA CDs from a list of more than ten of the hottest new RCA releases Take your pick from rock, country, urban, and adult contemporary, it's a gift from JVC that il get you going in real style.

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Having a multi-disc CD changer in your car has always meant

The covers with a trole play, a three-disc CD changer receiver that fils smartly into your dashboard to give you everything in car stereo without sacrifice.

With the KO-6T7, you've got it all. Three CDs totally out of sight but right at your fingertips, brilliant sound reproduction, IVC quality, and a place to keep your gloves.





Think about it: The 575x from Boston Acoustics.

The goal of a surround-sound speaker is to create an entirely different world in your living room. To food your ears into thinking they're inside as submarine. Or a baseball park. Or a heavily armored Petrusian galactic battle fortress. Surpringing ordnary surroundsound speakers producing elect sound carrip util the off. But the new Boston 575x dipolar surround.



speaker can. With ease. That's because it takes full advantage of reflected sound to create a realistic listening experience.

The advantage of the 575x is tough to pinpoint.

In order to bod your ears, a surround system must create a diffuse sound field all around you, rather than one your ears can proposit. In a movie theater, this is accomplished by placing several large speakers (usually our highly respected Boston ATOT commercial surrounds) on side walls at regular interests. But unless you live in a renovated derigible hanger, you probably can't do the same thing. So, we reasoned, instead of filling your walls with speakers, why not design a pair of



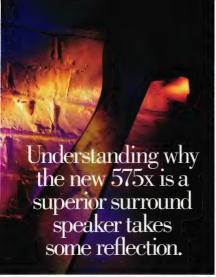
speakers that fills your walls with sound. Here's how, On either side of the 575x is a 2 ½-inch bweeter/ midrange—one firing forward, the other back. These drivers are out of phase with each other (i.e., when



one is pushing air out, the other is pulling air nut, which is known as a dipoter configuration. Amount is bound the center of the room is a single 514-inch worder that addites low frequencies which the human ear cannot locales. When mounted on a side wall of the coiling, the sound from the bea benefathing—mer and not walls, the coiling, the foto, your prized the coiling, the foto, your prized



swizzie stick collection—before it reaches your ears. You can't tell where the sound is coming from. It's all around you. It sounds real. (With ordinary speakers that fire



toward the listener, sound is easily localized, and the effect is lost.)

Small, yet powerful: The Yoda of surround speakers.

At just eight pounds, the 575x demonstrates some pretty impressive specs. For example, the home THX® standard says that a surround speaker must handle at least 100 watts of power. The 575x is rated to 125. This translates into a

speaker that handles a huge

amount of energy and sonic information, cleanly. With virtually zero distortion. Other vital stats: The

575x comes complete with a handy bracket for easy wall mounting.

Plus, it's available in either black (for those who want to show off their cool, new

speakers against clean, white walls) or white (for those who don't).

It's a THX surround. It's a Pro Logic^a surround. It's a eath mint.

It is true. Boston engineers have gone to the trouble of creating a perfectly tuned and matched set of speakers that meets the rigid specs set down by George Lucas for home

THX systems. They include 555x left/ center/right speakers

Powerful 595x subwonfers And 575x dipolar surrounds. But if you own a Dolby* Pro Logic* receiver. the 575x is the ideal surround for you, too. How can a surround speaker be perfect for both THX



and Dolby? Easy. The laws of physics and sonics don't change when logos do. Both THX and Dolby Pro Logic benefit from a diffuse sound field for realistic surround effects. Which is what the 575x does best. In fact, we believe that the 575x is the finest surround speaker ever conceived - regardless of the playback standard. (Just kidding about the breath mint thing.)

In order to be a better ch potato, you need to leave the house.

Get your hand out of those cheese curls, grab your car keys and visit your local Boston dealer. There, you can witness firsthand the impressive sound of the 575x surround speaker. Not to mention the entire line of Boston Acoustics home theater components. We bet you've never heard anything like it. Unless. of course, you've actually been inside a heavily armored Petrusian

galactic battle fortress before **Boston** Acoustics Just what's important Boeign and Boeign Acoustics are trademarks of Boeign Acoustics.

TIME DELAY



30 Years Ago

In the March 1964 issue, Technical Editor Larry Klein reported on a demonstration of the British-made Telean home video recorder, a \$200 unit that recorded TV pictures on standard quarter-inch audio tape. Noting its potential to "initiate a new era in home entertainment," Klein was nonetheless disspointed with the results, "I did not find the picture quality acceptable," in



Freeman Model 600, 1964

wrote, "although a number of my colleagues did not share my negative reaction."

New products this month included the Freeman 600 three-speed tape recorder with built-in amp and speakers (\$399.50), the H.H. Scott 350C stereo FM tuner (\$224.95), and the Suprex

ST-M stero headphones, which had separate woofer and tweeter elements and a miniature crossover in each earpiece. In test reports Julian Hirsch went hands-on with the Hadey 601 power amplifier, rated at 40 watts per channel, and "experienced the same sense of total ease and almost limitless power reserve I associate with the two or three finest amplifiers I have used."

Listening to Prozac? In a review of an Angel disc of Poulenc's Stabat Mater, William Flanagan called the piece "a magnificent work and a moving one" despite its "breathtaking musical vulgarity."



20 Years Ago

Letters to the Editor: Reacting to the then-current vinyl shortage, reader S. Phelps of Columbia, New Jersey, suggested that the record industry "set up procedures to collect discs people don't want any more—there must be millions just lying around."

Ray Davies (center) with the Kinks, 1974



Sansui's QRX-3500 receiver, 1974



In Best of the Month, Igor Kipnis endorsed an Argo recording of English virginal music played by harpsichordist Colin Tilney ("Superbly stylish, deeply felt, and musically penetrating"), and Noel Coppage came out for the Kinks' "Preservation Act I" ("Ray Davies does more with melody than any post-Beatles rock composer"). Elsewhere in the review sections, Eric Salzman knocked Murray Perahia's Schumann recital on Columbia ("An excellent pianist, but his Schumann has not yet ripened"). And Joel Vance. confronting Gregg Allman's "Laid Back," declared, "If Gregg Allman ever made a public statement that the earth is flat. I would give it serious

New products this month included the Hear-Muffs OM-440 four-channel headphones. with drivers positioned in front and back of each ear, the Dokorder 7140 four-channel reel-to-reel tape deck (\$549.95), and the Magneplanar Tympani speaker systems with dynamic panel drivers. In test reports, Julian Hirsch called the Sansui ORX-3500 four-channel receiver "the most effective and universal matrix receiver we have seen" and praised Electro-Voice's equalized Interface: A speakers for "a level of undistorted bass far superior to that of any other speaker of its size."

consideration."

Field of Germs: In a profile of Michael Tippett, viewed as Benjamin Britten's competitor for the title of Greatest Living British Composer, Bernard Jacobson quoted an unnamed source to the effect that, "If Britten sneezes, they record it."



10 Years Ago

New products this month included the Sanyo CP200 CD player, which could be programmed to play up to sixteen tracks in any order (\$549.94), the B&W DM2000 five-sided speaker, whose enclosure was designed to reduce internal standing waves that could interfere with bass/midrange cone motion, and the Koss Porta Pro headphones, with a frequency response rated from 15 to 25,000 Hz. In test reports, Julian Hirsch evaluated the unique Nakamichi RX-505 autoreverse cassette deck. which turned cassettes over rather than reversing the direction of play, and declared it "a member of that small, elite group of cassette decks that truly deserve the appellation 'state of the art.'"

Hollywood Babylon Revisited: Puzzled by a lyric in Juice Newton's "Dirty Looks" album—"Some people die before their time . . . but I want to go like Sal Mineo" reviewer Alanna Nash asked, "What does that mean? That she wants to be stabbed in a purking lot by a pizza delivery boy?" — Sieve Simels











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Natalle Cole Take A Look (Elektra) 450-741 Expenence The United Str. Hits (Adantic) 450-386 Jittle Texas—Big Time Warner Bros.)

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The Face of Rock.

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NEW PRODUCTS

V TECHNICS

The Technics SA-GX678 A/V receiver features a Dolby Pro Logic decoder, three surround modes, thirty AM/FM presets, a "help" mode for troubleshooting common operating errors, four audio inputs, three video inputs, and a subwoofer output. It's rated to deliver 80 watts each to

the left, center, right, and surround channels. The amp section employs several "voltage rails " said to improve afficiency and minimize heat generation, Price: \$400, Technics, Dept. SR, One Panasonic Way, Secaucus, NJ 07094. • Circle 120 on reader service card



Designed to be mounted in a wall or ceiling, Sonance's M10RB speaker has a 4-inch dual-cone driver in a 71/4-inch diameter frame with a recessed orille that resembles a lighting fixture. Frequency response is given as 70 Hz to 15 kHz ±3 dB. Price: \$155 a pair, including mounting hardware. Sonance. Dept. SR, 961 Caile Negocio. San Clemente, CA 92673. . Circle 121 on reader service card





W KINTEK

Designed with home theater in mind, Kintek's Digimate 610 is a modular power amplifier with balanced inputs and six plug-in amp modules, each rated to deliver 125 watts into 8 ohms or 200 watts into 4 chms. Any pair of modules can be bridged to provide 400 watts into 8 ohms. An overload-protection circuit reduces pain whenever an "excessive signal condition" is detected. Channel separation is given as 90 dB and distortion as 0.08 percent. Price: \$2,250. Kintek, Dept. SR. P.O. Box 9143. Waltham, MA 02254-9143. Circle 122 on reader service card





A SALAMANDER DESIGNS

The 36-inch-tall Archetype Rack System from Salamander Designs has five fully adjustable shelves and it can be expanded with an optional two-shelf extender as shown on left. Price: \$199 and up.

Available with solid walnut, solid cherry, or black-lacquered wood shelves factory-direct from Salamander Designs, Dept. SR. 1 Linden Place, Hartford, CT 06106. . Circle 123 on reader service card

NEW PRODUCTS

CD3 b

CD3's Model 401 storage case holds forty CD's. To get a disc out. you align the sliding indicator with the desired slot number and open the case. Price: \$30, CD3 Storage Systems, Dept. SR. P.O. Box 1206, Georgetown, TX 78627. · Circle 124 on reader service card



V CANTON

Canton's Combi 24 DC speaker system comprises a pair of 8inch-tall satellites, each with a 4inch woofer and 1-inch tweeter and a 19% x 9 x 12%-inch bass module featuring a bandpass design with two 8-inch drivers and dual ports. Bandwidth is given as

22 Hz to 30 kHz. The satellites are finished in black or white satin lacquer, the bass module in black textured vinyl, Price; \$995. Canton, Dept. SR. 915 Washington Ave. South. Minneapolis MN 55415-1245 . Circle 125 on reader service card



JVC's KD-GT7 car CD receiver accepts three CD's in a removable cartridge hidden behind its detachable faceplate, it features an AM/FM tuner with twenty-four presets, a bass-boost button.

and a four-channel amn rated to deliver 12 watts per channel Into 4 ohms. Price: \$800. JVC. Dept. SR. 41 Stater Dr. Elmwood Park, NJ 07407. • Circle 126 on reader service card



V SOUNDWAVE Soundwave's Point Source 3.0

speaker features a five-sided anclosure with two 8-inch wooders and a pair of 1-inch soft-dome tweeters, one at the apex of the cabinet and one on top to add depth to the soundstane. Frequency response is given as

34 Hz to 20 kHz ±3 dB. The 42-inch-tall speaker has an acrylic top panel and is finished in high-gloss black. Price: \$2,390 a pair. Soundwave. Vero Research, Dept. SR, 274 N. Goodman, Rochester, NY 14607 . Circle 127 on reader service card



* PROTON

Proton's AA-2120 power amplifier is rated to deliver 120 watts ner channel into 8 ohms, it features dual-mono construction with a separate power supply for each channel, a tinted-glass front panel with peak-level power meters. and a high-current output section

said to be capable of delivering 20 amperes into a 2-ohm load Distortion is given as 0.81 percent and dynamic headroom as 2.5 dB. Price: \$700. Proton. Dept. SR. 16826 Edwards Rd., Cerritos, CA 90701. . Circle 128 on reader service card





Introducing The Next Best-Selling Loudspeaker Of All Time.

More than 30 years ago. Henry Kloss designed he nose spendary IXI Model Sx. the first speaker to fally captor the potential of the way design. By using the theratesy principle of the accussic suspension woofer, so well as creating new type of long-throw integral-dome tweeter, he was able to make savel last oreasting a peaker that provided outstanding performance at moderate cost. A decade last, he took these principles will failthed outstanding performance at moderate cost. A decade last, he took these provides will be performance at moderate cost. A decade last, he took the provides will be performance to the control of all time. Both speakers were considered industry benchmarks for proceptormance.

We are now pleased to announce Cambridge SoundWorks' Model Six, a twoway system named in honor of Henry Kloss' first ground-breaking two-way system.

Not An "Extension Speaker."

Model Six is not an "cotension speaker" It's a serious main speaker with sufficient frequency range and power-handling to satisfy serious listeners. Model Six speakers, when combined with a good receiver and CD player, comprise a music system for \$500-\$600 that seriously outperforms typical pre-packaged "shelf" or "fack" systems.

Two-Way Design Advantages.

We believe that when lowest cost is not the ultimate consideration, the best speaker design is a subwoofer-satellite system like our Bresemble* and Ensemble II systems. But a properly designed subwoofer-satellite system requires three-way design, which entails the cost of two more drivers and a third cabinet. While mether Desemble system is "high end" in price, a complete stereo system stars at about \$800, still commit for music lovers on a budget.

QUANTITIES LIMITED \$499

The Country's Best Value In A Stereo System?

We've matched Model Six speakers with a bestselling stereo receiver and CD player to create what may be the best value ever in a stereo system. The receiver has 40 watts a channel and a remote. The CD player uses 1-bit technology for accurate, natural sound. Priced at only \$499, this is a certous music system for serious distences.



Model Six continues a long tradition of best-selling, high yerformance, high value, two-way speakers by Henry Kloss. Very natural, accurate, wide range sound-only \$119 each!

What does Model Six give up companed to our Ensemble systems? With big amplifiers in large rooms, Ensemble and Ensemble II can play louder, and they have greater low-bass extension. They also give you tremendous room-placement flexibility, which allows you to optimize performance, with little impact on the decor of your room.

Costly Components. Thoughtful Design.

At the heart of Model Six are its drivers, a 1%" cone tweeter with center %" dome (the same tweeter we use in Ensemble), and a newlydesigned 8" acoustic suspension woofer. While classic in their simplicity these drivers differ

greaty from other moderate-cost speakers. Model SiXs cossover frequency is 2,000 Hz, much lower than many other two-way designs. This makes it possible to ensure smooth, uncolored upper midrange with wide dispersion. Such a low consover frequency would not work with conventional revertees. But Model SiXs tweeter uses a supersion that allows the "long throws" necessary to recroduce music in this raine.

The 8" woofer one is larger than those usually found in speakers of Model Six's size and price, allowing it to move substantial amounts of air at low frequencies. And Model Six puts emphasis on very low frequencies instead of the mid-bass' rise' common in properties. The result is bass that is more acquaret and estended than similar systems.

But most important is how Henry Kloss went on to "voice" the system-painstakingly fine-tuning the octave-to-octave balance. This is the most important factor in determining the overall sound of a speaker.

Elegant Cabinet Design.

We devoted considerable time and effort orlining Model Six visually appealing. Convincing simulated wood finishes were chosenin oak, teak and black ash. A subtly rounded "bullnose" molding frames a medium charcoal erev srill that was custom-woven for Model Six.

Factory-Direct Price: \$119 each!

Because we sell factory-direct, Model Six set states than it would cost in stores. At \$19 each, in your choice of three finishes, it is the value in today's loudspeaker market. If you aren't satisfied, you can return Model Six within 30 days for a full refund.

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CIRCLE NO. 6 ON READER SERVICE CARD.

The Critics Love Ensemble And Ensemble II. What's The Difference, Anyway?

Cambridge SoundWorks changed the audio word when we began direct-marketing Ensemble* by Henry Kloss. Ensemble is a revolutionary dual-subwoofer/satellite speaker system offering all-out performance, without chattering up your room with huge speaker calinets. Available only factory-direct from Cambridge SoundWorks, with no expensive middle-men. Ensemble is prieded at hundreds less than it would have sold for in stores. Audio magazine says Ensemble 'may be the best value in the world."

And Then There Were Two.

Now Cambridge SoundWorks has introduced Ensemble II, a more affordable version of Ensemble using only one cabinet to hold both subwoofer drivers. Ensemble II has joined Ensemble in the ranks of the country's best-selling speak-



ers. We believe Ensemble III sa better system than its best-known competitor. And because we sell if factory direct, its half the price. Serve Periner was if "Ensemble II performs so far beyond its price and see that it can be compared only with much larger speakers as substantially higher prices." We agree with the writer who said, "It's hand to imagine going wrong with Ensemble." The question is, which Ensemble system is right for you?

The Same Satellite Speakers.

When you listen to either Ensemble system, almost 90% of the music you hear is being reproduced by the satellite speakers. Both Ensemble and Ensemble II use satellite speakers that are virtually identical.* Unlike many competing systems, Ensemble's satellites are true two-

way speaker systems, each containing a high performance tweeter and a 4-inch woofer. Stereo Review said, "The Ensemble satellites delivered a smoother output than

Thue acoustic suspension, sealed subwoofer cavity.





many larger and more expensive speakers." Small (8%"×5%"×4") and unobtrusive, they'll fit into the decor of any room. They're available in scratch-resistant gunmetal grey Nextel, or primed so you can paint them any color you wish.



Ensemble satellite speakers are available primed for painting, so they can match your decor exactly:

The Same Overall Sound.

In many rooms, Ensemble II sounds virtually the same as Ensemble, especially when Ensemble's two subwoofers are placed right next to each other. The real difference between the two systems is that Ensemble, with its two ultra-compact subwoofers (12"×21"×41/2"), gives you ultimate placement flexibility.

The Same Attention To Detail.

Ensemble and Ensemble II are constructed with the very best materials and no-compromise workmanship. Their subwoofers use heavy-duty woofers in true acoustic suspension enclosures. The satellites are genuine two-way systems with very high quality speaker components. Individual crossover networks are

built into every cabinet for maximum wiring flexibility. Robust construction is used throughout, featuring solid MDF cabinets and solid metal grilles.

The Same Factory-Direct Savings.

Cambridge SoundWorks products are available only factory-direct. By eliminating the middle-men, we're able to sell Ensemble and Ensemble II for hundreds less than if they were sold in stores.

The Same 30-Day Total Satisfaction Guarantee.

Choosing a loudspeaker after a brief listen at a dealer's showroom is like deciding on a car after one quick trip around the block. So we make it possible to audition our speakers the right way-



Stereo systems featuring Ensemble and Ensemble II speakers with Pioneer or Philips electronics start at only \$799, including CD player, Dolby Surround Sound systems start at only \$999.

in your own home. You get to listen for hours without a salesman hovering nearby. If within 30 days you're not happy, return your speaker system for a full refund. We even reimburse original UPS ground shipping charges in the continental United States





The only difference in satellites is that the original Ensembles use gold-plated connectors that allow use of even the heaviest gauge wire.

The Real Difference: The Ultimate Placement Flexibility Of Dual Subwoofers.

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W KRA

The LS-300 powered speaker system from KBA comprises two 121/4-inch-tall two-way speakers. one of which houses a 10-wattner-channel steren amplitier, and a bass module with a built-in 18watt amplifier. Bandwidth is given as 20 Hz to 10 kHz. Price: \$489, KBA, Inc., Dept. SR. 256 Commerce Dr., Suite 471. Peachtree City, GA 30269. · Circle 133 on reader service card





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V SOUND DECOR

Sound Decor's Shaker Table is a speaker incognite with a 51/4-inch woofer and a piezoelectric tweeter. Bandwidth is given as 45 Hz to 20 kHz and power-handling capability as 75 watts continuous. The 22-inch-tall table is available

in solid maple, solid cherry, or with a hunter-green or satinblack finish. Available factorydirect for \$875 a pair. Sound Decor. Dept. SR. 225 Old Dak Dr., Cortland, OH 44410. • Circle 137 on reader service card





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Pony Car

hen Henry Ford built his first gasoline-powered car in 1896 he envisioned it as transportation for the masses. True to his dream. he soon went on to invent mass production (an innovation that was even more important than the car) so that his company could make its cars affordable. More specifically, Ford manufactured one kind of carthe Model T. It was designed to be an everyman, one-size-fits-all vehicle. Ford nixed specialty attachments because they would only have increased the cost and probably defeated the entire concept. In a legendary summation of his philosophy, Henry Ford proclaimed that customers could have a Model T in any color they wanted, as long as it was black. Options were the last thing on his mind. The idea of car sound systems probably never occurred to him.

In April 1964, at the New York World's Fair, the Ford Motor Company introduced a sporty little car called the Mustang. Its styling was distinctive: long hood, short hopped-up rear deck, scoops on the sides, and a galloping pony on the grille. Its base sixcylinder engine supplied a modest 101 horsepower, but an optional V-8 engine upped that to 164 horsepower. Unlike the Model T, the Mustang came in a variety of colors, including such 1960's favorites as poppy red, sunlight yellow, and skylight blue. In terms of its sound system, the car was primitive (as were most cars in those days). The \$2,368 base price did not even include a radio. Two audio options were available: You could get a pushbutton radio with an antenna and a dash speaker, or you could enhance that package by adding a rear speaker. High-tech audio features like cassette players were still years away.

The Mustang was an instant hit among Baby Boomers, who were starting to get their driver's licenses. A savvy restaurateur advertised that his hotcakes were "selling like Mustangs." A Chicago dealer called the police when customers stormed his showroom. Ford's twelve-month sales estimate of 100,000 was achieved in four months, and the "pony car" went on to break the record for first-year car sales with a total of 417,000. Mustang-frenzied parents even purchased 93,000 pedal-powered mini-Mustangs during the 1964 Christmas season.

Today, 6.1 million Mustangs later, the Mustang is celebrating its hireth birthday with a complete redesign—the first significant makeover in whe first significant makeover in when year a decade. The new car—which represents a \$700 million effort—is pure Mustang, combining contemporary engineering with its design heritage. The base car, either coupe or convertible, is a V-6 with 145 horse-power, but there is also a V-8 model with 215 horse-power, and a 240-with 215 horse-power.

convertible). Each amp channel has two bands of fixed equalization and uses voltage limiting to restrict distortion at high volume levels.

The system also sports four woofers. Coupes have 5½ x 7½-inch woofers—two in the front doors and two in a rear-deck-mounted 15-liter enclosure; convertibles replace the rear pair with two 5½-inch woofers in the quarter panels. The woofers are powered by a pair of 85-watt, voltage-limiting amps with one band of the quarter panels on the continuous under the system pumps out 230 watts of continuous the part of 85-watt.

If you want more, the Mach 460 system can also be fitted with an indash CD player for an additional \$475; it mounts just below the cassette tuner. Still not satisfied? You can have the dealer install a ten-disc CD changer for another \$500 or so. Not

power, 460 watts peak.

The Mustang is colebrating its thirtieth birthday with a complete redesign and a host of impressive new sound-system options.

horsepower Cobra model will be available this spring.

Of course, the sound system is light vears beyond the 1964 offering. The standard package includes a stereo AM/FM radio with 24 watts of maximum power and four speakers. But it's the new Mustang's audio options that really demonstrate just how far car audio has come over the last thirty vears. The Mach 460 system (\$670) boasts a feature-packed cassette tuner, eight speakers, and six channels of amplification. Four of the amplifiers, each rated to deliver 15 watts continuous with no more than 2 percent distortion, drive four 21/2-inch midrangetweeters mounted in 1/2-liter enclosures-two in the sail panels (where the outside mirrors attach) and two in the rear package tray (in the coupe) or rear quarter panels (in the quite cutting-edge enough for you'd feet a MinDisc player instead of the CD tuner for about \$700. In fact, the Mustang is the first car sold in America that can be fitted with a factory-authorized, dealer-installed MD player. The Sony-built DDN-size unit features a twelve-character display that scrolls disc and track titles and a 4-megabyre buffer memory that holds 10 scapes uninterrupted playback no matter town hard you're unbine your possible.

Imagine what Henry Ford would asy if he returned for a look at the new Mustang. Certainly its engineering sophistication would astonish him. The Mach 460 sound system would probably mystify him. But, after a few minutes of contemplation, he'd probably vault into a convertible and take off, 6 black one of course.

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Future Shock?

I'm in the market for an A/V system, but I'm worried that anything I buy today will be obsolete tomorrow. Will today's components be able to process things like divital radio? Will today's VCR's be able to handle high-definition TV? Or will we eventually have to scrap what we're buying now? If so, if I decide to wait for tomorrow's technology, how long will it take? TAMES F. DONNELLY Croton-on-Hudson NY

The ol' crystal ball is a bit cloudy on the specifics, but I think it's fair to assume that the technological development will never be finished, so if you hold out for the ultimate expression of home entertainment equipment you could wait forever. But most change in this field builds on what already exists, so even though things like digital radio may require that you buy a new piece of equipment to receive it, the amplifier and speakers you buy today will be able to handle the new signal source. And though today's VCR's will definitely be incapable of handling high-definition TV, that's still a long way off; even if a standard were set tomorrow, it would still be years before programming became plentiful and prices dropped within the reach of the average consumer. In the meantime, why deny vourself what's available today?

Light on the Subject When I close the door on the tape well

of my cassette deck, the light inside goes out. It usually reappears when I press a function button and then fluctuates in this way several times as I use the machine. The deck seems to record and play normally whether the light is on or off, but I'm concerned that performance may be affected. What's causing the problem, and can it be repaired inexpensively? Scott A. Burgess Elvria, OH

It's probably nothing more than a loose connection, and since it doesn't seem to affect your recordings, I wouldn't worry about it. If the fault results in clicks in the audio signal, or if you really must be able to see where you are in a cassette, the problem should be cheap to fix.

dbx Tapes

I put together my system about ten years ago and included both cassette and open-reel tape decks with dbx noise reduction. Until I switched to CD's some years later, almost all my music was recorded on tape using dbx. I maintain all of my components carefully, but if my tape decks begin to deteriorate, what are the chances of obtaining parts so I can continue to eniov my encoded tapes? BOB POLLACK Juno Beach, FL

Not too good, I'm afraid, at least as far as the dbx circuitry is concerned, but fortunately that's not likely to fail. More delicate are the heads and the mechanical parts of your recorders, and these should be easier to replace. You might consider spending a few bucks now to have the manufacturer bring your tape decks up to spec and replace anything that's worn. That should insure at least as many years of good performance as you've already had, as long as you continue your careful maintenance regimen. I have recorders more than twenty years old that are still going strong.

Cassette Settinas I have a cassette deck with dual trans-

ports, but it has only one setting for oxide type. Is it possible to dub from a normal (Type I) tape to a Type II cassette with my machine, or is it even advisable to use a Type II tape in it? SCOTT HUGHES South Easton, MA

If there are no bias or equalization on tions, your deck is set up for "normal" ferric-oxide (Type I) tape. You can use Type II (high-bias) tape in it, but audio quality will be compromised. If, for example, you wish to copy a Type II tape to Type I, the playback equalization for the original will be wrong, and the sound will be somewhat bright (which may be pleasant but is inaccurate). If you copy a Type I tape to Type II, the latter will be underbiased, which will also result in high-frequency emphasis as well as increased distortion and reduced midrange headroom. Again, it may sound okay, but if you combine the two effects-Type II to Type II-the result would probably be unbearable. In any event, experiment to see what happens.

Subrumble

I do my listening in a special music room in the basement with double walls. ceiling, and insulation. The music is played on a high-quality stereo setup with DSP ambience enhancement. When I added a powered subwoofer several years ago, I noticed that with some CD's a low-frequency thump or rumble would creep into the music now and then. At first I thought it was someone walking across the floor upstairs, but as soon as I switched out the subwoofer he sound—almost a feeling—would stop. I couldn't seem to Isolate the piece of equipment where the problem originated, and then I heard II on a recording played on FM. I have since heard it on other selections played by the same station. If m at my wits' end—is three something wrong with my system?

St. Louis MO. D. Raisvo

I doubt it very much. I suspect you are hearing what a lot of new subwoofer owners notice, especially if they listen mostly to classical music: low-frequency noise on the recordings themselves. Many recordings are made in actual concert halls, even if no audience is present, and few of these are truly isolated from certain types of external noise, notably traffic rumble and air-conditioning sounds. In lots of cases, especially in old recordings, the engineers didn't know the sounds were there because their monitor speakers couldn't reproduce them. It may be cold comfort, but it's not at all uncommon for home stereo equipment like yours to have better performance than professional gear, particularly at the frequency extremes. About the only thing you can do is to roll off the bass or turn off the subwoofer when it happens. Or leave it there and appreciate the realism of it all.

Double-Duty Amplifier

My Dolby Pro Logic decoder provides a single center-channel line output and a single subwoofer output. Could I use an ordinary stereo amplifier to drive a center speaker and a subwoofer? If so, would it provide adequate channel separation

JOE MORGAN Kuwait City

As long as the amplifier has enough power to drive the subwoofer without distress, you should have no problem. Channel separation should be much more than enough.

Out-of-Phase Surround

It have noticed that some surround speakers used und drivers wired out of phase to achieve a nondirectional ambient sound. Does this technique provide any advantage over conventional speakers? And if it does, could I accomplish the same thing by wiring my two conventional surround speakers out of phase with one another?

Commerce Township, M.

One of the aims of a surround system is to create a sound field that seems to envelop you without your being aware of the side or rear speakers as distinct sound sources. This effect can be enhanced by speaker placement or design.

A number of manufacturers, including all who produce Home THX-certified speakers, employ a quasi-dipole design for the surround channel, in which two drivers are placed back-to-back and wired out of phase with one another. Like a true dipole (a single diaphragm radiating front and back), this arrangement creates a figureight radiation pattern, with most of the sound being directed forward and backward, relatively little to the sides. If the speakers are positioned so that the side runlis' are aimed foward the prime littenrulis' are aimed foward the prime littenmuch weaker than the sound reflected much weaker than the sound reflected fair

the surround sound as diffuse as it should be, and it works only because the drivers are close together. Simply wiring a pair of conventional speakers on opposite sides of the room out of phase would not produce the same effect.

If you have a question about audio, send it to Q&A, Stereo Review, 1633 Broadway, New York, NY 10019. Sorry, only questions chosen for publication can be answered.



ALLISON ACOUSTICS

Home Theater Audio.

478 Stanford Avenue Danville, KY 40422 Tel: (606) 236-8298 Fax: (606) 236-7476

Dealer Inquiries Welcome

Good news for folks who find TV's Lois and Clark: The New Adventures of Superman a little too sweetly romantic compared with the Man of Steel's comic-book adventures. Time Warner AudioBooks has released "Superman Lives!," a 21/2-hour cassette extravaganza (Dolby Surround, original orchestral score) inspired by last year's Death of Superman comics saga. Unlike the network version, this aural incarnation of the Caped Kryptonian (originally produced by the BBC) has all the superheroic ultraviolence you could want. quite realistically conjured. How the tape will play to a generation for whom radio drama is a quaint form of nostalgia remains to be seen, of



METROPOLIS course, but Time Warner may be onto something-at last count the Death of Superman comics had sold upwards of 25 million copies.

TWO TO

Planist Judith Lynn Stillman, the youngest musician ever to be admitted to the Juilliard School's doctoral program, is a frequent guest at



music festivals. It was at Tanglewood, the renowned summer home of the Boston Symphony in the Berkshires, that she first met trumpet player Wynton Marsalis, who later became one of her students at Juilliard. They recently collaborated on their first recording, a collection of modern works for trumpet and plano titled "On the Twentieth Century," The Sony



Nashville's The Bis-Quits (the first rock band signed to originals like formers haller furthend an anguing ouver of Richard Thompson's Walking on a Wire, we honor of the classical cellist. The genesis of this unlikely





Pinnist Tri-

where classical music is rarely noticed, but ultimately it was the quality of his recordings that established him as a contender in the arena of young classical mu-

sicians. His latest recording, "Popular Encores," was set for release by EMI Classics in February.

Classical CD includes

works by Bernstein.



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One look, one listen, will confirm Carver's passion for aural perfection. Gold plated input jacks, 5-way binding posts, dual analog meters. Expansive headroom that faithfully – no, stunningly - reproduces the dynamic peaks of digital music and movie soundtracks.

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MUSIC MAKERS

DANCING WITH THEMSELVES

In case you hadn't noticed, the punk revival is definitely upon us. Safety pins and ripped T-shirts are haute couture, there's a new album by the Buzzcocks, Guns n' Roses has released cover versions of songs by punk progenitors, and Generation X-1976's pretty-boy alternative to the Sex Pistols-got together for a oneshot reunion. Appearing unannounced after a solo show promoting former Gen X leader Billy Idol's current "Cyberpunk" album at London's Astoria club, the foursome roared through such spike-haired classics as-Ready Steady Go and Your Generation to the delight of an aging (but still pogoing) crowd. "In retrospect, Generation X was such a great group," bassist Tony James commented afterwards. "It was like being in the Who."



A KOREAN-AMERICAN





BUT IT'S NOT IN ODORAMA

If you're considering buying "Road Kill," the new video collection by heavy-metal bad boys Skid Row-and is there anyone among us who isn't considering it?-be advised that it comes with an interesting bonus. Along with the usual concert footage and backstage antics, the video (on A*Vision, VHS or laserdisc) features a clip of Psycho Love in astonishingly realistic 3-D (no kidding-we checked it out for ourselves). Fortunately, two pairs of 3-D glasses are included, so that, in the words of navel-baring Skid Row frontman Sehastian Rach, "no one has to watch it alone."

CARLY'S OPERA DEBUT As a child Carly Simon

saw enough at the Metropolitan Opera. thanks to her well-intentioned parents, to steer her far away from Wagner and Verdi and toward one of the legendary careers in pop music. Still, at fortyseven Simon retained enough fondness for the Met to create words and music for a children's opera, Romulus Hunt, commissioned by the Metropolitan Opera Guild. After well-received



was recorded by EMI's Angel Records and is now available in record stores. Plans are in the works for more staged productions across the country. Watch for it, and take the kids.

You need the right tone of voice to say Home Theater

In a movie thater, the speaker you never see is the conter channel. That's because it's located directly behind the streen, so dislogue sounds as if it's coming directly from the actor's mouths. Although movie screens have tiny holes in them to allow the soundtrack to pass into the theater, the screen material absorbs so much high frequency information that filmmakers are forced to boost the trable content of the soundtrack. Unfortunately, when a film is transferred to videotope or laserdisc, this high frequency boost remains, resulting in dialogue that is unnaturally harsh and much too "up front" for home theater. While most speaker manufacturers design their center channel systems to be acoustically flat—a noble goal, they completely ignore the question of overly bright dialogue reproduction.

To overcome this problem, Atlantic Technology's Model 153 C Center Channel Speaker gently rolls off the high frequencies for smooth reproduction of center channel dialogue information. When designing the 153 C, our R&D team spent countiess hours listening to a wide variety of film and television sound-tracks. These tests allowed us to perfectly time the Model 153 C for extended listening, without the brittle, misdirected and harsh sound often associated with center channel oudspeakers. The result is rich, natural sounding vocal reproduction. Simply put, the right tone of voice.

At Atanic Technology, we specialize in home theater, We listen to our outsomers and to movies with equal excitement, then deliver components that are as much about value as they are about performance. That's why Video Magazine said "In its price range, Atlantic Technology is currently very hord—If not impossible—to beat." Call 617-762-8500 and refer to Dept. A for more information and the name of your nearest Atlantic Technology deals.



"Deserve's got nothin' to do with it."

If you can name the movie the above quote is from, the character who said it, and the actor who played the role, you can be entered in a drawing to win our Center Channel Speaker, Send your answers on a postcard to Atlantic Technology, Contest Dept. 343 Vanderbit Ave, Norwood MA 2006. Contest tends 313 (1)



Tuner Tests

convenient music source for many people, FM radio at its best delivers truly excellent, its ultimate performance is usually compromised by such problems as multipath interference, indeferrom local sources of radio-frequency (RF) noise or from other success of radio-frequency (RF) noise or from other sations, and signal processing (such as compression) purposely applied by the broad-tent per marticulation.

As with amplifiers, there is a comprehensive Electronics Industry Association (EIA) standard for testing FM tuners: IEEE Standard 185-1975 (now in the process of being updated) covers virtually every aspect of performance. Some of its tests are of limited value (notably the misnamed "usable sensitivity," generally regarded as an unusable-sensitivity rating, since a signal of the specified level would indeed be unlistenable) or obsolete, but many others are still quite useful. Among the most important measurements, which we make on every tuner and receiver, are 50-dB quieting sensitivity in both stereo and mono modes, the ability to reject stronger signals 200 or 400 kHz from the desired signal (adjacent- and alternatechannel selectivity), the signal-tonoise ratio at a 65-dBf signal input, frequency response, and stereo crosstalk or separation (the extent to which a left-channel signal also appears in the right channel, and vice versa).

The term "dBf" may be unfamiliar. Tuner sensitivity used to be rately used to be rately in microvolts (millionths of a volt) of signal required at the antenna input to produce a stated level of performance at the tuner's output. But a tuner's performance actually depends on the signal power at the antenna terminals, not the voltage. Depending on whether the antenna-input impedance is 75 or 300 ohms, the voltage for exactly the same performance could differ by the same performance could differ by a factor of two. To eliminate that confusion, the 1975 tuner-testing standard calls for specifying signal strength in decibels relative to a standard power level (dBf), rather than as a voltage. The 0-dBf reference level is 1 femtowatt (10⁻¹⁵ watts), 3 dBf is 2 femtowatts, 6 dBf is 4 femtowatts, and so

The 50-dB quieting sensitivity is the input required for a fully modulated signal to produce an audio output 50 dB greater than the tuner's noise output with an unmodulated signal. This measurement applies to both stereo and mono reception and roughly defines the weakest signal that provides useful reception. High sensitivity (a low number) is important if you want to listen to a faraway station or have a poor antenna; in a strong-signal area, however, it may be not only unimportant but even undesirable. Poorly designed tuners can easily be overloaded by strong signals, creating distortion or spurious responses at other frequencies. In such cases it may actually be necessary to attenu-

may actually be necessary to attenuate the input to the antenna terminals. Frequency response is seldom a program itself can deliver. Image response—interference from signals 21.4 MHz above the FM channel can be important if you live close to a busy airport, where aircraft communications with the control tower might blot out some FM stations on a tuner with a low image-response ratio.

Capture ratio (a measure of a tuner's ability to reject the weaker of two signals on the same frequency) and AM rejection can be very important in fending off the ill effects of multipath. A common, often severe reception problem, especially in cities, multipath occurs when a broadcast signal and one or more very slightly delayed reflections of it from buildings or other features of the local terrain are all picked up by the same antenna. For minimum distortion in such situations, capture ratio should be low (preferably close to 1.0 dB) and AM rejection high (up around 70 or 80 dB).

Not every test we perform is of equal importance to every listener, but most of them do help to define a good or not-so-good tuner. Excellent tuners are available at relatively affordable prices (\$400 to \$600), and highly sat-

An FM tuner's capture ratio and AM rejection can be

problem in tuners, since most are flat within a decible or two up to the 15-kHz limit of FM transmission. And distortion readings, though important, can be misleading, because what is measured as "distortion" (especially in stereo) often consists mainly of particus signals outside the audible observed of the modulating signal. These may indeed be audible under certain conditions, but not in the same way as conventional audio distortion.

Channel separation is a standard measurement, but unless it is very poor (less than 20 dB or so), you probably will get as good a stereo image as the isfactory ones for somewhat less. The differences are often much less obvious than those between speakers, or even amplifiers, however, depending largely on how difficult the reception conditions are. Most receivers have adequate, though not outstanding, tuner sections, whose quality seems to be only lossely related to price.

In closing, let me say that for really difficult long-range or weak-signal FM reception, the most important thing is not the tuner, assuming it achieves decent overall performance, but the antenna! The best tuner in the world cannot bring in a signal that never reaches its input terminals.

ONY



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It takes a lot of effort to record on cassettes. First you have to plan your music program. Then you have to determine if you have enough tape. And if you ever want to replace a song, you might as well start all over again.

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Ånd only Sony offers such a wide variety of MiniDisc products. In addition to the models shown, there's an MD Walkman Recorder. A car in-dash MD Receiver. An MD Mini Component Deck. A complete MD Tabletop Music System. And both 60 and 74 minute MD Recordable Discs. So if you're considering the ultimate cassette system for the future, guess what? The future isn't a cassette.

It's a MiniDisc.





SONY

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Yamaha CX-2 Audio/Video Preamplifier

he slow but steady seep of video capabilities into traditional audio components is no better exemplified than by the CX-2. Yamaha's next-to-the-top separate preamplifier. It provides not only connections and switching for the audio outputs of a videodisc player and two VCR's, but also for both composite-video and S-video signals from such devices. Audio-only connections are provided for a CD player.

a moving-magnet (MM) or moving-

coil (MC) phono cartridge, a tuner,

and two audio recorders.

Apart from the video switching, the CX-2 is a fairly basic, though not minimalist, preamp. Most of its features are controlled by knobs and switches hidden behind a flip-down front-panel door. There are knobs for bass, treble, channel balance, and loudness compensation, a switch labeled Pure Direct that routes the audio around those circuits, an independent recording-source selector, and an infrasonic-filter switch effective only on the phono input. There are three frontpanel indicator lights, for power, Pure Direct, and muting (a 20-dB reduction of output level switched from the supplied infrared remote).

Similarly straightforward, the CX-2's back panel has horizontally arrayed input jacks, enabling easy access by feel from the front. The video jacks for A/V components are segregated from the corresponding audio jacks, a minor inconvenience, but the layout makes for a low-profile enclosure. Also on the back panel are three switched AC outlets (maximum 200 watts total), a push switch for selecting moving-coil or moving-magnet

raises or lowers the volume. Most of the handset's numerous buttons are devoted to the functions of other components (CD player, tuner, and so forth). That's about it for features. Performance is something else again. Our test results tell only part of the technical story, which can be sum-

operation of the phono section, and a muting-control jack that connects via a supplied cable to Yamaha's MX-1 and MX-2 power amplifiers. The CX-2's programmable, multicomponent remote control switches power, se-

lects sources, activates muting, and

marized easily: The Yamaha CX-2 was a superb performer in every significant respect.

The tone controls proved to be unusual. Used alone, the bass knob had a very wideband effect, extending into the low treble even at moderate settings (between 9 and 3 o'clock), But when I turned the treble control to approximately the same setting as the bass control, the bass circuit's highfrequency effects were partially canceled. Turning both tone controls to the same setting gave the effect of a graphic equalizer adjusted for a broad boost (both controls turned down) or dip (both controls turned up) centered at approximately 2 kHz (the "presence" range).

BIMTHEIANE 17½ INCHES WIDE, 3½ INCHES HIGH. 121/4 INCHES DEEP

MANUFACTURES YAMAHA ELECTRONICS CORP., DEPT. SR 666 ORANGETHORSE AVE BUENA PARK CA 90620

The action of the infrasonic filter was, in fact, confined to infrasonic frequencies, although it would be more beneficial if its rolloff started higher, up in the audio range (or, better, if it had a steeper slope), and if the filter applied to all inputs, not just phono. The loudness-compensation system requires you to set the maximum playback level with the volume control and then reduce the volume using the loudness knob, which progressively applies a bass boost and a smaller treble boost as the level is lowered. As these things go, it is a superior approach now rarely used. The Pure Direct switch produced no reliably measurable differences in performance. Then again, in some categories the CX-2's measured performance with Pure Direct switched off already approached the performance limits of the Audio Precision

test equipment we use. The one very minor anomaly we found was leakage of power-line hum and its harmonics into the signal from 60 Hz up to around 1.5 kHz. But the hum components were all at least 91 dB below the reference output level of 0.5 volt, thus quite a bit below the threshold of audibility in typical setups. I certainly never heard them. Moreover, at frequencies above 2 kHz, where the ear is most sensitive to noise, the CX-2 was considerably quieter than a theoretically perfect CD player playing a theoretically perfect recording. Indeed, the CX-2's hiss levels were lower than one could obtain from a theoretically perfect 18-bit CD, if there were such a thing, Few other preamps are that quiet. The CX-2 is about as digital-ready as it is possible to be

Its video-readiness is more limited; although the video-witching circular was admirably clean and neutral in operation. The CX-2 contains no surround-sound decoder and has no speculous the coder's multiple outpus. On the other hand, such features would add cost and complexity that many potential users might not want. The CX-2's video capabilities will be most useful video capabilities will be most useful video capabilities will be most useful video vid



MEASUREMENTS

All measurements except for those related to the phono input were made through the CD input. Performance through the other linelevel inputs was essentially identical.

(20 Hz to 20 kHz)........+0.07, -0.18 dB Frequency response (tonc controls centered)....20 Hz to 20 kHz +0.02 -0.11 dB Tone-control range

100 Hz ±7 dB 10 kHz ±6 dB

cessor with a master volume control for all channels but no A/V switching capability. Even if you don't need the video switching, it adds little to the CX-2's very reasonable price and does nothing to diminish its superb performance as an audio preamp.

Definitive Technology®

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CIRCLE NO 15 ON READER SERVICE CARD



Bose Lifestyle 5 Music System

few years ago we reviewed the original Bose Lifestyle music system-an unconventional product designed to simplify the installation and operation of a multiroom music system. It used a three-piece Bose Acoustimass speaker system with the familiar Bose "cube" satellite speakers and a separate bass module that also contained power amplifiers and electronic crossovers for the entire system. The heart of the system was the Music Center, an unobtrusive shelf-top unit combining an AM/FM tuner and CD player with the necessary system controls in an attractive and remarkably compact form. The Music Center was capable of driving an essentially unlimited number of powered loudspeakers, which could be organized into two zones for independent, simultaneous playback of separate program sources (such as radio and CD). Another unusual feature was the system's remote control, which used radio waves to transmit commands to the Music Center. This enabled operation of the Lifestyle system from any

DIMENSIONS MUSIC CENTER: 15 x 2½ x 9 INCH SATELLITES: 3½ x 6½ x 4¾ INCHES

BASS MODULE: 14 x 19 x 7½ INCHES FINISH

SATELLITES: WHITE OR BLACK BASS MODULE: BLACK MUSIC CENTER: SILVER RC-5 REMOTE CONTROL: WHITE

\$1,498, INCLUDING RC-5 REMOTE CONTR

MANUFACTURER BOSE CORP., DEPT. SR, THE MOUNTAIN FRAMINGHAM, MA 01701-9168

room, or even from outside the house without the line-of-sight path to the handset that would be required for conventional infrared remote control.

Bose has since expanded its Lifestyle line to three models, including an upgraded version of the original system, now called the Lifestyle 10, with improved speakers. Completely new are the lower-price Lifestyle 5 reviewed here and the Lifestyle 3, both based on the somewhat smaller, single-zone Lifestyle 5 Music Center. The Lifestyle 3 includes Bose's Powered Acoustimass 3 Series II three-piece loudspeaker system, whereas the Lifestyle 5 comes with the same Powered Acoustimass 5 Series II speaker system as the topof-the-line Lifestyle 10. The Series II satellites are appreciably smaller than in the earlier version but retain the pivoting feature that enables the upper and lower cubes of each satellite to be aimed in different directions for best control of the sound's spatial distribution. Each cube contains a single 21/2inch cone tweeter. The bass module, which formerly used a pair of 6-inch drivers, now has a single 8-inch driver in its dual-chamber Bose Acoustimass

enclosure. The Powered Acoustimass 5 Series II speaker system (which is also available separately) has three power amplifiers in its bass module, with a total rating of 200 watts, A 100-watt amplifier drives the woofer, and there are separate 50-watt amplifiers for the satellites. The bass module also contains the electronic crossover circuits and level adjustments for the bass and treble ranges, used for balancing the relative levels of the woofer and satellites as required by their placement in the room. The speaker system's electronics turn themselves on automatically when a signal is detected and off

automatically after a period of silence. The Lifestyle 5 Music Center appears very similar to the original model (now called the Lifestyle 10 Music Center). It contains a CD player and AM/FM tuner and on the rear has three sets of line-level inputs labeled aux(iliary), video, and tape. All essential control buttons are accessible in a window on the Music Center's top surface as well as on the remote hand-

Definitive's Award-Winning Center Channels and Bipolar Surround Speakers for Your Ultimate **Home Theater**

Absolute sonic superiority and unequalled value make Definitive loudspeakers your obvious choice.





nthusiasts and world renowned a experts acknowledge the dramatic sonic superiority of Definitive loudspeakers for both the superb reproduction of music and the dramatic special effects and dialogue of home theater surround sound.

World's Finest Center Channel Speakers

Optimum surround sound reproduction places heavy demands on the center speaker, the most important speaker because it handles 50% or more of the program material. It is no place to settle for second best. Definitive's C/L/R 1000 and C1 are the finest shielded, low profile, high resolution center channel/main speakers available. They use superior state-of-the-art components and technology for extraordinary ultra

high definition articulate clarity and high power handling (C/L/R 1000: 300 watts, C1: 200 watts).

The BP2's Bipolar Advantage

BP2s are unique ultra compact high resolution bipolar (front and rear radiating) systems intended primarily for use on the rear/side surround channels of the finest home theater systems. Experts agree that Definitive's bipolars provide a perfectly diffuse sound source which is ideal for these applications.

The use of BP2s results in a much more lifelike, dramatic allenveloping listening experience than is possible with conventional speakers. In addition, because of their superb performance characteristics, the BP2s also make exceptional main channel speakers CIRCLE NO 15 ON READER SERVICE CARD

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Definitive speakers are consistently top-rated and were chosen by experts in Stereo Review for their home theater "Dream System." A survey of U.S. dealers voted Definitive speakers #1 for quality and reliability among all speakers sold in the U.S.!

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See dealer list on page 42

MEASUREMENTS

TUNER SECTION All figures are for FM only except frequency response. Measurements were made at the

fixed-level outputs.
50-dB quieting sensitivity
mono
stereo
Signal-to-noise ratio (at 65 dBf)
mono71.5 dB
stereo
Distortion (THD+N at 65 dBf)
mono
stereo
Capture ratio (at 65 dBf)
AM rejection
Selectivity
alternate-channel
adjacent-channel
Pilot-carrier leakage
19-kHz61 dB
38-kHz65 dB
Hum72 dB
Channel separation
100 Hz
1 kHz
10 kHz
Frequency response
FM30 Hz to 15 kHz +0, -1.6 dB
AM6 dB at 160 Hz and 2.4 kHz

Frequency response
20 Hz to 20 kHz +0, -0.65 dB
De-emphasis error0.5 dB at 16 kHz
Channel separation
100 Hz57.5 dB
1 kHz57.5 dB
20 kHz48 dB
Dynamic range95.5 dB
Quantization noise82 dB
Distortion (THD+N)
at 1 kHz, -60 to -10 dB<0.032%
at 0 dB, 100 Hz0.032%
at 0 dB, 1 kHz
at 0 dB, 10 kHz
Linearity error
at -60 dB0.7 dB
at -70 dB0.4 dB
at -80 dB1.6 dB
at -90 dB1.8 dB
Interchannel phase shift2° at 20 kHz

set. You can set the tuner frequency manually by means of buttons hidden beneath the CD cover (to the right of the main controls and display) or you can simply scan up or down the selected band for receivable signals. As many as twenty station frequencies in either band can be stored for recall with the same buttons used for CD with the same buttons used for CD manually station frequencies in either band can be stored for recall with the same buttons used for CD

track switching.
Although the Lifestyle 5 system is normally supplied with one remote control and one set of speakers, it is capable of feeding multiple powered speaker systems located in different rooms, and additional remotes can be purchased for convenient use throughout the house. Nou could, for example, and control the system from there even if the Music Center and primary speakers were in your living room.

The Lifestyle 5 comes with the simplified RC-5 remote control. At extra cost, you can buy the deluxe RC-11 control, which is standard with the Lifestyle 10 system. The RC-11 is black and has more buttons than the RC-5 (thirty-four versus fifteen), plus two slide switches. Both are radio-frequency remotes that can be used from virtually anywhere in or around a typical home.

+0.019%

Frequency (speed) error

The RC-11 does provide more operating features than the RC-5 (such as track-sequence programming for CD's), and it is certainly easier to use than a typical receiver or system remote control. Nevertheless, I would opt for the RC-5, which impressed me as having the finest regnomic design I have ever encountered in a system remote control. If you have difficulty programming a VCR or operating a typical component audio system, with RC-5 alone might decide you in favor of the Lifestive S.

The RC-5's buttons are round, 3/8 inch in diameter, and marked more

clearly and visibly than we are accustomed to seeing. Like the control itself, they are white, with black labels. Pressing any of the source buttons (AUX, AM/FM, CD, etc.) turns on the system and selects that source. Once the system is operating, if AM/FM has already been selected, the AM/FM button toggles between the two bands. As on the Music Center itself, a single pair of buttons is used for CD track selection and for stepping through the tuner's station presets. Below them is another pair of buttons used for fast-scanning a CD or scanning the selected radio band.

Up/down volume buttons smoothly vary the Music Center's output between its maximum level and fully off. There are three more buttons: auto off, mute, and off (the last is black, with white markings). Mute toggles between normal volume and silence (the pause/play button has the same effect, even if CD is not selected). Auto off shuts the system down automatically at a predetermined time. Pressing it once allows the system to play for 75 minutes, and each subsequent press subtracts 15 minutes of playing time. The off button shuts the system down at once.

Bose does not publish typical performance specifications for its products, and in the case of an integrated system such as the Lifestyle 5, it is not practical to make some of the measurements we would ordinarily perform on separate components. Our laboratory tests covered tuner performance (measured at the Music Center's tape outputs), CD-player performance (measured at its fixed-level outputs), frequency response and distortion of the low-level audio stages (through the auxiliary inputs), and loudspeaker performance (using the amplifiers in the bass module).

we measured the loudspeaker frequency response in our listening room, separately for the bass and satellite speakers. The satellites' averaged room response was impressively smooth, varying less than ±2 dB from 400 Hz to 12 kHz. The close-miked response of the bass module had a mildly double-humped shape with an overall variation of less than ±3 dB from 50 to 150 Hz. The output fell off

steeply at lower frequencies to about -20 dB at 40 Hz.

The bass-level balance adjustment on the Acoustimass bass module had a ±6-dB range about its indicated normal setting. Our measurements and listening tests indicated that the normal setting was optimum for our room and that the useful lower limit of the system's response was around 50 Hz or slightly lower. The treblelevel adjustment range was about ±7 dB at 6 kHz or higher, with a diminishing effect at lower frequencies (down to about 1 kHz). As with the bass, the indicated center setting for the high frequencies gave the most pleasing sound (as well as the most uniform measured response).

Quasi-anechoic MLS response measurements confirmed the excellent response uniformity of the Powered Acoustimass 5 Series II speakers over the useful range of the measurement, from about 400 Hz up. The satellite response at 2 meters varied less than ±2 dB from 500 Hz to 16 kHz. There was a 5-dB response noteh just above 16 kHz.

Directivity measurements with swept noise signals indicated that the response 45 degrees off the satellite speaker's forward axis fell off to -3 dB at 3 kHz. -8 dB at 10 kHz. and 1-2 dB at 20 kHz. Although the 2½-what more directive than a smaller tweeter, the upper frequencies carry only the high harmonics of a musical program, and the ability to aim the two drivers in each satellite in different the control of the contro

Measuring the distortion of the bass module was not as easy as it is with conventional unpowered speakers. We set the input to produce a 90-dB sound-pressure level (SPL) at 1 meter from the bass port. Then, with the microphone close to the port, we measured the total harmonic distortion (THD) from 20 to 200 Hz at a constant input level. Readings ranged from 0.3 to 3 percent over much of that range, between about 90 and 170 Hz, and rose to between 5 and 10 percent from 20 to 80 Hz. These results may not be directly comparable with those from a more conventional loudspeaker, however, because of the signal processing applied by the active circuitry within the Powerd Acoustimass S Series II. Specifically, it incorporates what Bose calls Dynamic Equalization—an automatic loudness compensator that progressively boosts the bass range as the volume is reduced in order to maintain a consistent tonal balance independent of level. I (Without such compensation, there the level is unread down because of the ear's reduced low-frequency sensitivity at low volumes.)

The Powered Acoustimass speakers also have automatic protection circuitry to prevent damage to their electronics and drivers from excessive signal levels. Although we could not confirm the operation of the protection circuits by any obvious effect on the

> The Bose Lifestyle 5's overall sound was as easy and effortless as we have over experienced from a home audie system.

sound, we did find that we were unable to damage anything, or to produce significant audible distortion, even when we played CD's having extreme dynamic range at the system's maximum volume setting—a level so high as to completely preclude conversation.

The overall sound was a easy and efforties as we have ever experienced from a home audio system. Bearing in mind that all speakers sound different to a greater or lesser degree, the Powered Acoustimass 5 Series II system held its own against any other speakers with which we compared it. Its sound was beautifully balanced, with never a hint of the source of the bass, or even that it wasn't coming from the tiny stellite

cubes. Stereo imaging was superb, and the bass was solid down to the 50-Hz region. And despite its small drivers and considerable power, this system is about as "bulletproof" as

they come. The Lifestyle 5 Music Center is the perfect answer to the bulk and complexity of most home audio components. Its FM tuner section proved to be better than we're used to seeing in its most important characteristicscapture ratio, AM rejection, image rejection, and selectivity-and at least average in all others. And though the built-in CD player comes off as somewhat spare in comparison with most separate units, it has all the features most people will ever use, even with the supplied RC-5 remote control. If you want track-sequence programming in addition, just substitute the deluxe RC-11 remote. The player's measured performance exceeded what is necessary for good sound enough that you need not give it a second thought. The transport did tend to skip and mistrack with even light taps on the outside of the Music Center, however, so that should be kept on a solid, stable surface.

To me, the icing on the Lifestyle cake is the RC-5 remote control, which exemplifies the goal of operating simplicity that was clearly at the heart of the system's design. Not once did I have to fumble or search for the desired button, and rarely before have I seen a complex consumer product so well engineered throughout as to be usable by any member of the household without frequent reference to the instruction manual. (That manual, incidentally, is a sizable and weighty 200-page volume, in five languages, that leaves no doubt in the reader's mind as to what should be done to achieve any desired result.)

The bottom line on the Bose Lifestyle 5 is that it is an attractive, easy to use, and thoroughly listenable music system that should bring good sound to many households in which a stack of black-finished components and prominent speaker cabinets would not be appreciated. It would be difficult to get better sound at its price, to say nothing of its nearly ultimate operating simplicity.



Allison Acoustics AL115 Loudspeaker System

OUCK LAROPATORIES

llison Acoustics' AL Series of relatively small loudspeakers feature "room-matched design," meaning that they are intended to deliver the flattest power response when placed so that the center of the front panel is 2 feet from one wall and at least 3 feet from any other. The installation instructions suggest spacings for rooms where those distances are not feasible. The original research into the effect

of room boundaries on acoustic power response was begun by Roy Allison while he was chief engineer of Acoustic Research and when he later formed his own company, Allison Acoustics, his findings were a key element in the design of its speakers. Last year the company was sold and moved from Massachusetts to Kentucky, but it continues to follow Allison's design principles and to use his distinctive convex-dome tweeter, recognized for its wide dispersion and extended range.

The AL115 is a two-way system with an 8-inch woofer crossing over to a single Allison Convex Diaphragm tweeter at 2 kHz. The woofer's diaphragm is hand-treated with a proprietary energy-absorbent compound to minimize resonances; the tweeter is cooled and damped with magnetic

> 20 INCHES HIGH, 111/6 INCHES WIDE, 10 INCHES DEEP

> > PINISH BLACK WOODGRAIN

> > > \$460 A PAIR

MANUFACTURES ALLISON ACQUISTICS, DEPT. SR. 478 STANFORD AVE., DANVILLE, KY 40422

fluid. Like almost all the drivers used in Allison speakers, the AL115's are manufactured in the U.S. by Allison.

The woofer, which operates in a sealed acoustic-suspension enclosure, has a rated resonance frequency of 50 Hz. Its low-frequency response is rated as -3 dB at 41 Hz, -6 dB at 33 Hz. The system's nominal impedance is 6 ohms, and its sensitivity is given as 90 dB sound-pressure level (SPL) at 1 meter with a 2.83-volt input.

The AL115 is recommended for use with amplifiers rated up to 150 watts. Its drivers are protected against overload by a thermal current-sensing device, the Allison Power Shield, that shuts down their signal input if the drive current reaches a potentially damaging level. It resets automatically when the drive level is reduced.

The black-woodgrain-finished cabinet has a dark-gray, marbled front panel with rounded edges and a removable frameless plastic grille. The flexible, slightly convex grille snaps into a narrow slot around the front panel. The dome tweeter is also protected by a metal screen. The input connectors, multiway binding posts on 3/4-inch centers, are recessed into the rear of the cabinet.

We mounted the Allison AL115 speakers on 30-inch stands approximately at the recommended distances from the room boundaries. Their averaged room response was flat through the midrange, varying ±2 dB from 230 Hz to 1.2 kHz. There was a dip of 4 dB at about 2 kHz, followed by a 4dB peak at 3.6 kHz and a return to midrange levels above 6 kHz.

The close-miked woofer response reached its maximum at 70 Hz. falling at 12 dB per octave below that point and at 3 dB per octave above it, up to nearly 1 kHz. The woofer and roomresponse curves did not splice as unambiguously as we would have liked, but the composite curve did indicate a maximum bass output at 70 Hz and a treble maximum at 3.6 kHz, with a ±4-dB variation over most of the audio range, from 120 Hz to 20 kHz.

A series of quasi-anechoic MLS response measurements showed a rough correspondence to our room-response measurements. Specifically, there was a peak of 4 or 5 dB at 3.6 kHz and a

dip of about 4 dB at about 10 kHz, with the output rising by 2 or 3 dB from 10 to 20 kHz. Since MLS measurements in our room are possible only above 300 Hz, we could not use them to verify our judgment in splicing the woofer and room-response curves.

The Allison tweeter's dispersion was outstanding, with a level change over a 45-degree angle off the forward axis that did not exceed 2 dB up to 10 kHz, 7 dB at 15 kHz, and about 10 dB at 20 kHz. Group delay was very constant over most of the audio range, except for a jog at the 2-kHz crossover frequency (which was not clearly evident in most of our measurements).

The minimum impedance readings were 4 ohms at 20 Hz and between 100 and 150 Hz, 3.6 ohms at 10 kHz. There was a rise to 11 ohms at the 56ohm bass resonance and a 20-ohm maximum at 1.5 kHz.

Sensitivity measured 89 dB SPL at 2.83 volts, very close to the 90-dB rating. We measured woofer distortion with an input of 3.2 volts, corresponding to a 90-dB SPL. It was slightly below 1 percent over most of the range from 1 kHz down to 70 Hz, rising to 2 percent at 60 Hz, 4.5 percent at 50 Hz, and 8 percent at 40 Hz.

The woofer cone bottomed with a single-cycle 100-Hz burst of 270 watts. At 1 kHz, the amplifier clipped at 470 watts before the speaker cone reached its limits, and at 10 kHz the amplifier delivered a single-cycle burst of 1.785 watts without damage to the tweeter or even audible distress.

In listening tests, the Allison AL115 proved to be even better than our measurements would suggest. The various features of our response measurements were not identifiable, for the most part, or else imparted positive qualities to the overall sound. Heard side by side with some other speakers we had on hand, the AL115's frequently proved to be more listenable, partly because of their exceptional transparency in the high frequencies. It seems likely that this transparency derives from the convex-

Although not particularly strong in the low bass, the AL115 could hardly be described as deficient in the lower octaves, and it was notably free from the middle- and upper-bass emphasis that so often colors reproduction of male voices

The principal anomaly in our performance measurements-the peak at 3.6 kHz-was not audibly obvious. Perhaps it was partly responsible for the crispness that we sometimes heard, but if so its effect was no greater than those of the response variations of most speakers. We found the crispness to be a plus, but it is a matter of taste

The Allison AL115, neither the cheapest nor the most expensive small two-way speaker system, is a good value. Hear it if you can, if only to decide whether its sound appeals as much to you as it did to us.



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he Sound Feeder Model SF100 Mobile Audio Connector is the most practical and convenient way to connect your portable Compact Disc Player or Cassette Player to your car's existing FM radio speaker system. By simply plugging the Sound Feeder into your cigarette lighter, connecting the audio input wire to your portable player, and setting it to the desired station, you can begin to enjoy the amplified STEREO sound of your portable music source without the bother of dangerous (and often illegal) headphones.



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The Sound Feeder's combination of stereo sound, easy installation, portability and power supply feature, plus its ability to reduce the risk of theft and save the expense of a costly indash system, make it the ideal accessory for every vehicle owner.







B&W 2003 Loudspeaker System

LIAN HIDSCH . HIDSCH, HOHER LABORATORIES

he new 2000 Series from B&W consists of five inexpensive speakers featuring a new frontbaffle design. The contoured, molded polypropylene panel, with a large-radius curved surface, is ribbed to increase stiffness and eliminate resonances, B&W says that this design surpasses previous ones in its freedom from edge diffraction, resulting in exceptionally transparent sound and natural imaging. To satisfy the special requirements of audio/video home theater systems as well as conventional stereo installations, all the B&W 2000 Series speakers (including an acoustically and cosmetically matched center-channel model) incorporate the company's Zero Magnetic Field (ZMF) shielding system, enabling them to be placed close to a TV set or video monitor without disturbing the picture.

The Model 2003 is next to the top of the series. It is a two-way system based on a single 61/2-inch woofer with a damped acrylic-fiber cone and a rubber surround operating in a vented enclosure. The crossover, at 3 kHz. is to a 1-inch dome tweeter with a damped polyester diaphragm and magnetic-fluid cooling. The woofer, in the center of the

front panel, is protected by a frameless, perforated PVC grille that has minimal effect on the system's acoustic output. The bass port is below it and the tweeter above it. The cabinet

814 INCHES WIDE, 1614 INCHES HIGH.

PERSON Dr sor wooders

PRICE \$300 A PAIR

MANUFACTURER B&W LOUDSPEAKERS OF AMERICA, DEPT. SR. P.O. BOX 8, NORTH READING, MA 01864-0008

would normally be installed in a vertical position and is ideal for stand mounting. Multiway input binding posts are recessed into the back panel near the top of the cabinet. Although they will accept single banana plugs, they are deliberately placed too far apart to allow the use of dual banana plugs. (This is common practice in Great Britain, where B&W speakers originate, since standard dual banana plugs can be inserted into British AC outlets.)

For our room-response measurements and listening tests, we placed the B&W 2003 speakers on 30-inch stands about 9 feet apart and 18 inches in front of a wall. The room response, averaged for the left and right speakers, was exceptionally flat and smooth from 500 Hz to 20 kHz, with just a ±2-dB variation over that range. Floor reflections caused larger variations at lower frequencies, although the overall response was still within ±6 dB from 50 Hz to 20 kHz.

The close-miked woofer response, combined with the port output and corrected for the relative dimensions of the cone and port, was within ±2 dB from 50 to 300 Hz, sloping down 4 or 5 dB from 300 to 500 Hz, where it matched the average room-response level. The combined response of ±3 dB from 45 Hz to 20 kHz is very good for a speaker of this size.

A quasi-anechoic MLS measurement confirmed the exceptional flatness of the B&W 2003's output. The response variation at a 2-meter distance was only ±2.5 dB from 300 Hz to 20 kHz and was about half that much over most of the audio range.

Measurements with swept random noise gave similar results on-axis: ±2 dB from 80 Hz to 20 kHz. At 45 degrees off-axis, the response remained within 3 dB of the on-axis level up to 6 kHz, dropping off by 7 dB at 10 kHz and 15 dB at 20 kHz. That is a slightly greater off-axis rolloff than we have measured from many speakers with similar driver complements, but our listening tests did not reveal any consequent loss of highs in music.

The system impedance reached its minimum of 4.7 ohms at 200 Hz and 8 8 kHz, confirming B&W's very con-servative 4-ohm rating. There were & impedance peaks of 25 ohms at 29 Hz and 20 ohms at 85 Hz and a maximum reading of 30 ohms at 1.8 kHz.

Sensitivity at 1 meter with a 2.83volt input of pink noise was 90 dB sound-pressure level (SPL), slightly better than the rated 89 dB. The woofer distortion at that level (which corresponds roughly to a rather high listening volume) was typically 1 percent from 2 kHz down to 120 Hz, rising to 3 percent at 80 Hz and 10 percent at 60 Hz. In a pulse power test at 100 Hz, the Model 2003's small woofer began to sound hard at about 80 watts input and bottomed noisily at 110 watts. At higher frequencies the speaker easily absorbed single-cycle bursts of many hundreds of watts.

The crossover between the woofer and tweeter was undetectable by any measurement we could apply. Sometimes a phase anomaly at the crossover frequency can give a clue to the crossover point, but no such effect

was apparent in our tests. In view of B&W's emphasis on the Model 2003's lack of an external magnetic field, we checked it out with a magnetometer. The highest reading, directly at the woofer grille, was a mere 1 gauss. Holding the speaker directly against any portion of a TV set had no effect on the picture. Unshielded speakers often give considerably higher readings at distances of a foot or more and usually have to be kept at a distance from a TV to pre-

vent color changes. Listening to the B&W 2003 (before making any measurements) demonstrated that it had an uncolored, balanced sound. Its high end was obviously smooth and extended, without a trace of edginess. The speaker was refreshingly free from lower-midrange boom on male voices, yet it never seemed to be lacking in bass. Spatial imaging was first-rate, with a seamless soundstage that, together with the 2003's small size and unobtrusive appearance, made it easy to forget the presence of the speakers while listening to them. All in all, B&W has succeeded admirably in its goal of providing good sound from affordable, inconspicuous speakers while retaining full compatibility with the video elements of an A/V system.



The wide variety of home entertainment configurations present new challenges for sophisticated listeners. Gone are the days of simply having left and right speaker systems. Todays systems call for rear surround and center channel speakers, subwoofers and even remote satellite speakers. This can present problems with space and dollars if you only consider off the shelf" speaker systems. This is where MCM Finctronics comes in.

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Sony MDS-501 MiniDisc Recorder

KEN C. POHLMANN . HAMMER LABORATORIES

udio product launches usually follow a strict evolutionary path. The first models are normally large and AC-powered; they're followed by smaller components, with battery-powered portables arriving last. This sequence follows the natural engineering progression, enabling companies to begin recouping their investments more quickly than they might otherwise.

Sony's MiniDisc launch has gone the opposite way. The first models were portables, followed by car and component models, with the largest version coming last. Although certainly costly for Sony, this inversion eserved to emphasize MD's strength as a portable format. Without the support of home decks, however, the format would be something of a two-legged stool, And. eventually, they came.

The MDS-501 is the first full-size home MD recorder (the earlier MDS-101 was a "midi"-size component). At first glance, it might be mistaken for a CD player, but a closer look at its closed look player. Deading slot shows that no CD could ever enter there. Instead, either prerecorded or blank MD cartridges are loaded into the slot, much the way ovud insert a disc into a car CD player. An LED lights to show when a disc is loaded, and an eject button is used to retrieve discs. There is a power or notfor button, but the deck will also turn on automatically when an MD is inserted.

Besides the usual transport controls, there is a small volume control that varies the output level of a nearby 1/4-inch headphone jack. An AMS

> 17 INCHES WIDE, 3½ INCHES HIGH, 14 INCHES DEEP

> > PRICE

MANUFACTURED SONY ELECTRONICS, DEPT. SR, ONE SONY DRIVE, PARK RIDGE, NJ 07656 (Automatic Music Sensor) knob is used to cue to the beginning of a specific track, specify the order of programmed tracks, perform edit functions, enter text data, and set the clock. The AMS knob operates like a jog dial in that it is continuously variable without stops; in addition, it can be pressed to conveniently play or pause a disc. Incidentally, when you hit the play button, playback starts instantaneously, thanks to a memorystart function that keeps a small amount of data ready in memory so that the player doesn't have to wait for the disc.

A display button lets you see either the name of the current track or the time remaining on the disc. The display itself tells you everything you need to know about the MDS-501's operation. A music calendar indicates the track being played back, edited, or recorded. A surrounding grid also differentiates between prerecorded and user-recorded discs: It blanks when a recordable disc is played. An alphanumeric display shows disc and track titles, track numbers, total or elapsed playing time, date and time of a recording, and editing messages such as "Erase." "Divide." and "Combine." as well as diagnostic messages. A

The Powered Subwoofer That Has The Audio And Video Press Jumping Out Of Their Seats.

A jet roaring in Top Gun. The heavyfooted killer robot in Robocop. A semi hitting concrete after a 20 foot fall in Terminator 2. These are examples of the substantial. very low-frequency effects on the soundtracks of today's movies. Such frequencies are rare in music, and are beyond the capabilities of most speak-

ers designed for music. The Cambridge SoundWorks Powered Subwoofer by Henry Kloss was created to reproduce those ultra-low, ultra-strong bass signals with the power and impact you would experience in movie theaters with the very best sound systems. It's designed to supplement (not replace) the subwoofer(s) of Ensemble or Ensemble II. It will also work with speakers from other companies.

Remarkable bass performance.

The Powered Subwoofer consists of a heavy duty. 12 inch long-throw acoustic suspension woofer integrated with a 140



watt amplifier-all in a high-pressure black laminate cabinet. Its control panel includes a bass level control and an 18dB per octave, four-position electronic crossover frequency selector (to match the subwoofer to your other speakers).

Additionally, an optional electronic crossover* will provide 18 dB per octave, **DESIGNS BY HENRY KLOSS**





high-pass, line-level filters for the main and center amplifiers. These filters allow you to keep strong, low frequencies of sound effects out of the front speakers. These signals can cause distortion, even in speakers designed for full-range music. The Powered Subwoofer's bass perfor-

mance is simply awesome. It reproduces accurate bass to below 30 Hz. You'll hear soundtracks the way they were meant to be heard. In fact the bass is better than most

Our I Strimgte Hame Theater Speaker St. visions of our dual-subwools nble system; our low profit

theaters! At the press event when we introduced our Powered Subwoofer, we had startled members of the audio and video press literally "jumping out of their seats" during demonstrations of movie soundtracks. The factory-direct price of the Powered Subwoofer is \$599

Optional "slave" subwoofer. For all-out home theater performance.

you can add our optional Slave Subwoofer, which is identical to our Powered Subwoofer except that it lacks the amplifier and controls. It uses the amplifier and controls built into the Powered Subwoofer. Amplifier output jumps from 140 to 200 watts when the Slave Subwoofer is connected

The combination of the two speakers can reproduce a 30 Hz signal cleanly to a sound pressure level of over 100 dB in a 3,000 cubic foot room! That's enough clean, deep bass for the largest home theaters, and the most demanding listeners. The factory-direct price of the Slave Subwoofer is \$299.

No compromises. No apologies. The combination of our Ensemble speaker system, Center Channel Plus speaker,

The Surround rear/side speakers. Powered Subwoofer and Slave Subwoofer (see photo at left) creates a home theater speaker system that we believe is the best of its kind Although you can spend thousands

more on competing systems, we don't know of any that outperform this \$1,999 package. If you'd like more information, a free catalog or our new booklet, "Getting The Most From Your Dolby Surround System," call our tollfree number any time. For A Free Catalog, Call

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peak-reading stereo bar-graph meter is used to monitor recording and playback levels.

Less frequently used controls are hidden behind a hinged door on the front panel's right side. These include buttons for editing operations, a button for selecting playback modes such as random and programmed play, high-speed search buttons, and a button for selecting A-B, track, or disc repeat. A knob is provided for setting input levels from analog sources; each channel can be adjusted separately. There are also switches for selecting either analog or digital inputs, setting recording or playback to be triggered by an external timer, and setting the internal clock's date and time

Around back, the MDS-501 sports four phono jacks for analog line-level input and output and two Toslink optical connectors for digital audio input and output. The MDS-501 accommodates only the CD-standard 44.1-kHz

sampling rate.

The RM-D1M infrared remote control supplied with the MDS-501 is a formidable handful of fifty-six buttons. Functions include transport control, power switching, text entry, direct track access (up to twenty-five tracks), track-sequence programming (also up to twenty-five tracks), random and repeat play, track intro-scan (6, 10, or 20 seconds), and 3-second auto-spacing between tracks-useful when recording tapes from an MD so that cassette-deck track-search features can be used reliably with them. The remote can also be used to synchronize a Sony CD player with the MDS-501 for making recordings, Curiously, the remote does not let you manipulate any of the MDS-501's editing features; perhaps Sony is afraid of accidental button-pushing

Operation of the MDS-501 is fairly straightforward. Playback works much as with a CD player, except that disc and track titles are displayed. Specific tracks can be cued by pressing direct-track-access or forward/reverse scan buttons on the remote or by twisting the front-panel AMS dial right or left. Other functions, such as random track playback and track-sequence programming, are also easily accomplished.



MEASUREMENTS

Recording and playback measurements were made through the analog inputs; measurements given are for the worse of the two channels. The review sample was a handbuilt prototype and may differ slightly from final production units. In particular, Sony says that production units will exhibit at least 5 dB better signal-to-noise ratio.

Line input for indicated 0 dB800 mV Line output for indicated 0 dB.. 2.08 volts

PLAYBACK

20 Hz to 20 kHz +0.02,	-0.05 dB
Channel separation	
l kHz	68.4 dB
20 kHz	.67.8 dB
Signal-to-noise ratio (A-wtd.)	.90.5 dB
Dynamic range	.87.2 dB
Distortion (THD+N at 1 kHz)	
at 0 dB	0.008%
at -20 dB	0.049%
Linearity error (at -90 dB)	0.6 dB
Interchannel phase shift (at 20 ki	Hz)0.99

RECORD/PLAYBACE	
Frequency response	
20 Hz to 20 kHz +0.02	,-0.11 dB
Channel separation	
l kHz	52,6 dB
20 kHz	52.0 dB
Signal-to-noise ratio (A-wtd.)	86.3 dB
Dynamic range	82.5 dB
Distortion (THD+N at 1 kHz)	
at 0 dB	0.01%
at -20 dB	0.21%
Linearity error (at -90 dB)	+0.3 dB
Interchannel phase shift (at 20)	(Hz)1.5°

What clearly differentiates the operation of the MDS-501 from that of a CD player, however, is its recording function. It is especially important to note that the MDS-501 has two recording modes. In the ALL REC ON mode, it automatically erases the entire recorded contents of the inserted MD. If you want to keep the existing contents of an MD and add new data, you must set the recording mode to ALL REC OFF before you load the disc. Like all other consumer digital audio recorders, the MDS-501 incorporates the Serial Copy Management System (SCMS) and will therefore refuse to make a direct digital copy of a source that is itself a direct digital copy of an original.

Recording itself is pretty easy. You simply select analog or digital input and press the record and play buttons simultaneously. The deck automatically locates blank portions on the disc to accommodate the new data, or it erases the existing data, depending on the recording mode. In either mode, the deck displays the time remaining on the disc. Level-setting is unnecessary in direct-digital recording (as from the digital output of a CD player to the MDS-501's digital input), but when recording from the analog inputs you must adjust levels manually. In either case, track numbers can be marked automatically or manually.

Changes made to an MD through recording are finalized only when you update the disc's table of contents (TOC) by ejecting it or hitting the power switch to go to standby mode. Like cassettes and floppy disks, MD's have a record-protect tab to prevent accidental erasure.

The edit buttons and AMS dial enable you to select a number of special features. When turned on, the Level Sync function automatically marks a new track whenever a silence occurs (new tracks are always automatically marked when recording digitally from a CD), or you can manually add track numbers by pressing the record button while recording. The Divide function lets you split an existing track into two or more tracks and automatically renumbers succeeding tracks up to a maximum of 255 (a track must be at

Home Theater Speaker Systems. There's A Right Way And A Wrong Way.

We'd like to clear up some misconceptions on the subject of speaker systems for use in Dolby Pro Logic home theater systems.

Misconception #1: You can use any speakers for the surround and center channels.

The center channel is very important because a large portion of soundtracks is directed to the center in systems with Pro Logic. That speaker should have smooth frequency response, good power handlingand it must match the tonal balance of the main speakers. Also, a center channel speaker should be magnetically shielded to prevent video interference.

Surround speakers should also match the tonal balance of the front speakers. Indeed, all five speakers should have matching tonal balances for proper sound. But unlike front speakers, surround speakers should create a diffuse sound field. So the best systems with Pro Logic use "dipole radiating" surround speakers (e.g. The Surround II and The Surround speakers in our \$797 and \$1,117 packages).

All the systems on this page consist of speakers designed to match each other tonally, (Identical timbre).

Misconception #2: Use five identical speakers in a system with Pro Logic A number of companies have released speaker packages consisting of five matching minispeakers (some with a subwoofer). This ignores

the fact that the surround channels serve different purposes than the front channels.

Misconception #3: A good home theater speaker system costs

market.

thousands and thousands of dollars. A number of retailers regularly sell \$10,000 Pro Logic speaker systems. This is just not necessary.

We believe that the two more expensive systems on this page compete headon with combinations selling for thousands more, Add our Powered Subwoofer (\$599). and we'll compare them to anything on the

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TEST REPORTS

least 8 seconds long to be counted). Or you can go in reverse with the Combine function, putting two or more sequential tracks together into one and renumbering the succeeding

tracks accordingly. A Rehearsal mode enables you to audition an edit point before committing to it, and in the process to vary that point over a range of -128 to +127 steps of 0.06 second each. You can also change the numerical order of the tracks on a disc and erase a whole disc, a track, or part of a track. All of these editing tasks are fast and easy to perform, in part because they require no physical alteration of the data on a disc. All that gets changed is the MD's table of contents, which is what tells the player where everything is located on the disc, and no edit is final until the TOC is rewritten with your changes.

After dividing and conquering your tracks, you'll want to label them. The MDS-501 enables you to create disc and track titles of as many as 100 capital and lower-case letters, numbers, and symbols, to a maximum of 1,700 characters per disc. The labeling is easily accomplished using either the front-panel AMS dial or the remote control's keypad to select characters.

Like other MD components, the MDS-501 uses Sony's ATRAC perceptual-coding system to reduce the amount of data that must be recorded on the disc by about 80 percent (currently the only practical method of squeezing CD-length recordings into such a small package). Traditional measurements are still useful for diagnosing gross performance problems in MD decks, but perceptual coding shifts more of the burden onto listening tests. I was therefore especially careful in my auditioning of the MDS-501, using a variety of prerecorded MD's and both 60- and 74minute recordings made on our test sample

In direct comparison with my reference CD player, the MDS-501 sounded subtly but distinctively different. There is no mistaking the MD sound: It creeps out just like Dan Rather's suppressed Texas drawl. Although the sonic artifacts were perhaps slightly less obvious than with previous MD decks, they were still clearly present. Bench tests indicated that the MDS-501's ATRAC encoder does operate a little differently in some respects from the one used in earlier MiniDisc recorders, particularly at very high frequencies, but just as no amount of speech coaching could ever relieve Mr. Rather of his accent, perhaps MD will always have a slight twang to the trained ear.

The principal ATRAC artifacts are a watery, slightly unstable shifting in the tonal characteristics and imaging of middle frequencies and a smearing of high frequencies and transients. For example, cymbals sometimes sound slightly odd in an MD recording. To put this into perspective, the artifacts are fairly subtle and have been completely inaudible to about half the people I've put through double-blind comparisons. Given that MD was never meant to compete with CD on sound quality, but instead to make some of the benefits of CD more portable, you might not consider the format's sonic shortcomings very important. In other words, if you'll be using the MDS-501 primarily to make recordings for portable listening, you probably won't care much about

ATRAC's relatively minor flaws. After listening for ATRAC artifacts, I turned my ear to other, more mundane considerations, such as not hear any outstanding problems. and in general the MDS-501's basic electronic performance seemed on a par with that of previous MD recorders, or similar to that of a good portable CD player. Subsequent bench measurements essentially confirmed that judgment. My final test (a favorite here at Hammer Laboratories) was a good fist-slamming into the top and sides of the recorder, which demonstrated that the MDS-501 was completely resistant to vibration.

Operationally, the MDS-501 was great. If you are into editing, you'll love the flexibility afforded by the combination of disc recording and a long playback memory buffer. You can cobble together pieces from all over the disc and still have the result play back continuously. Other features also worked well. I especially liked the AMS jog wheel and the way it lets you quickly select tracks. This is an absolutely terrific feature, and I hope it eventually shows up on CD

players. The MDS-501 will encourage your secret recording-engineer persona to emerge from hiding, indulging itself in elaborate editing projects that would be all but impossible on nonprofessional tape equipment. But even if you just want to record MD's for portable listening or to enjoy noncritical listening at home, the MDS-501 is



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ly, Martin Forrest wrote the above ocal Adcom dealer and listen to what



ike most folks these days, I've rediscovlered my long-standing affection for dinosaurs. Not the kind seen in *Jurassic Park*, but rather those found in my private collec-

Reagan in '80"

and "Crazy Ed-

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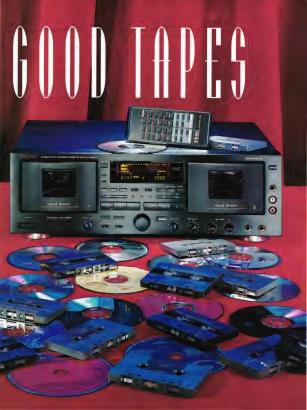
GUIDE TO

HOME

RECORDING Xtra personal computer with 256K memory, and approximately 2 2001 PS

Now, some "audio archaeologists" suggest that the launches of the Sony-developed Mini-Disc (MD) and Philips's Digital Compact Cassette (DCC) place the analog compact cassette next in line for the bone heap. But I think that's rushing things a bit. Although some digital format will certainly be the future of audio recording, I've yet to be convinced that the analog cassette is in imminent danger of extinction.

In fact, according to the International Tape and Disc Association, the audio cassette has at least another ten years of steady, if slowing, growth ahead. The obvious reason is that the cassette is pretty convenient—unlike the LP, which was strictly an in-home medium and thus easily supplanted by the superior-sounding and far more convenient CD. And, of



home, in the car, on the train, on the beach, in offices, schools . . . well, you get the picture.

Moreover, when you consider that an estimated 4.4 billion blank cassettes have been sold in the U.S. since 1980—with an additional 450 millional 450 million

compete (see the table below, "How the Recording Formats Stack Up"). I a don't know about you, but my bank book is urging me to sit this one out, at least until a winner nears the gate. Besides, I m pretty satisfied right now with the performance of my homemade tapes, Indeed, I actually versality and is technical challenges. It's a creative medium—a magnetic canvas of sorts on which I try to

capture my individual musical prefer-

A Sound Checklist

The way I see it, anyone who makes a habit of taping a CD or LP (other than a collector's item) from start to finish is a total wuss. I mean, why bother? If I want to listen to the Stones' "Some Girls," I'll put on the CD. But I have only one recording that contains the sones Kine Bee.

HOW THE RECORDING FORMATS STACK UP

	DAT	DCC	MINIDISC	ANALOG CASSETTI
RECORDING METHOD	Linear PCM	PCM with PASC data reduction	PCM with ATRAC data reduction	Analog
SAMPLING RATE	48, 44.1, or 32 kHz	48, 44.1, or 32 kHz	44.1 kHz	Not applicable
MAXIMUM RECORDING TIME	120 minutes at highest sampling rate	45 to 60 minutes in each direction (about 90 to 120 minutes total) at highest sampling rate	74 minutes	Typically 45 to 50 minutes in each direction (90 to 100 minutes total); about 60 minutes in each direction (120 minutes total) with thinnest tape
DYNAMIC RANGE	Approximately 90 dB	Approximately 90 dB	Approximately 90 dB	55 to 80 dB
FREQUENCY RESPONSE	Essentially flat to 20 kHz at 48- and 44.1-kHz sampling rates, to 14 kHz at 32-kHz sampling rate	Essentially flat to 20 kHz at 48- and 44.1-kHz sampling rates, to 14 kHz at 32-kHz sampling rate	Essentially flat to 20 kHz	Depends on tape, adjustment of deck, and other factors, but typically within ±3 dB from 30 Hz to 18 kHz with good equipment
CHANNEL SEPARATION	Typically 90 dB or more, limited only by analog electronics	Typically 90 dB or more, limited only by analog electronics	Typically 90 dB or more, limited only by analog electronics	Typically 40 to 50 dB at low frequencies
DISTORTION	Extremely low	Extremely low in conventional measurements	Extremely low in conventional measurements	Typically low (less than 0.5 percent at normal recording levels) but can reach several percent on peaks
WOW AND FLUTTER	Unmeasurable	Unmeasurable	Unmeasurable	Typically between ±0.05 and ±0.15 percent on good decks
INPUT/OUTPUT	Analog or digital	Analog or digital	Analog or digital	Analog
VIBRATION SENSITIVITY	Low to very low	Low to very low	Low to very low	Moderate to very low
DURABILITY	Good	Good to very good	Excellent	Good to very good
OVERALL REPRODUCTION ACCURACY	Excellent	Excellent	Very good to excellent	Fair to excellent

Parachute Woman, and You Got the Silver, and that's my own Stones anthology, a tape I call "Time Warp." The same applies to my other one-ofa-kind collections by such artists as Ray Charles, Steely Dan, Hank Williams, and Howling Wolf—not to mention such genre compilations as "All That Bebop," "Going for Baroque," and "Hecdown in Mottom."

Catchy compilation titles aside, most homemade tapes only sound as good as the hardware used to record them. It therefore stands to reason that a serious home recordist should have a somewhat serious tape deck, preferably one equipped with as many of the following features as possible:

A three-head (playback/record/

erase) configuration for better sonic performance and to enable off-thetape monitoring while recording.

• A well-constructed tape transport

with at least two motors (two per well in a dubbing deck).

• Some means, automatic or manual,

of adjusting the recording bias.

• Dolby B and C noise reduction and Dolby HX Pro. Very serious home recordists may wish to consider the new Dolby S noise reduction. More

on Dolby later.

• A readable peak-level meter.

 A real-time tape counter—as opposed to the typical numeric counter



Denon's DRW-S40 dubbing deck (\$400) has two heads in each well and features
Dolby KR Pro, Dolby B and C noise reduction, an output-level indicator for each channel, a highspeed dubbing mode, a relay mode that automatically switches from Deck A to Deck B
during recording or playback, and controls for music search and bias adjustment.

blank cassette should be as agonizing as shopping for a new car. Although I make it a rule to steer clear of private brands and no-label stock—out of re-brands and no-label stock—out of re-brands and advanced to the control of the

While I sometimes buy metal tapes (Type IV) on sale, I don't believe that metal's advantages over Type II—superior high-frequency response and signal-retention characteristics, which can yield better dubs from CD's—are always worth the added expense, especially if the deck I'm using incorporates Dolby HX Pro.

Longer-length tapes (74 or 100 minutes instead of 60 or 90 minutes instead of 60 or 90 minutes are different story. True, we're only talking about an extra 7 minutes a side at most, but the added cost is often negligible while the extra recording/playback time is always useful. The only problem I've had with longer-length tapes is the lack of appropriate settings on my recorder's real-time counter.

That's no big deal: I simply set the



Both of the two-head wells in Teac's W-6000R (\$750) are said to deliver swift autoreverse operation thanks to the use of an infrared device that senses the tape leader. Features

include Dolby HX Pro, Dolby B and C noise reduction, a pitch control in Deck I, manual and automatic recording-level adjustment, automatic fading, mic/line/tape mixing, and a remote control.

(a must-have for measuring remaining or elapsed tape time). Generally speaking, dubbing decks

Generally speaking, duboning decks sacrifice some sound quality or recording flexibility for their dual-well convenience (few are three-head units). Dolby B noise reduction (for both playback and recording) is an absolute must in this case—as are rugged tape transports and Dolby HX Pro.

Tale of the Tape

Despite the absurd variety of tape lengths and formulations available nowadays, I don't believe choosing a



Sony's TC-K611S (\$4400) is one of the least expensive decks to offer all three types of Dolby noise reduction: B, C, and S. The three-head deck also features a powered loading machanism, Dolby HX Pro, a linear lape counter with memory, and music-search and record-mule controls. deck for the closest tape length. When the remaining-tape indicator starts running low, I reset the counter to 0.00, fast forward to the end, and note the timer reading. That gives me a fairly precise indication of how much recording time actually remains on the side. Ideally, I like to stop with approximately 8 minutes remaining in accordingly. Since I detest tapes with prolonged silences at the ends, I'll often regard the last track on each time regard the last track on each time regard with site file.

Tim also a firm believer in combining selections from CD's and LP's
(and on rare occasions, other cassettes) to produce a tape anthology.
The more you have to work with
more diverse and interesting your
tapes will be. But this approach also
requires frequent compensation for
fluctuations in the sound quality, solution
especially, volume level of the source
material.

Depending on the degree of compression of the source signals, music that produces the same peak levels on the meters may not sound equily loud. In such situations, I usually "rehearse record" about 30 seconds of the selected track, then compare is playback level by ear to that of the preceding out—ignoring helevel meters—before making any needed adjustments in the recording level. This essential but deficiate procedure since too many level changes may result in a tase with more neaks and

dips than the Himalayas.

More often than not, I opt to record slightly on the "hot" side, which is to say that most clean analog material (except chamber music) will produce

Harman Kardon's TD-4400 (\$449) is a two-head deck featuring separate motors for the tape reets and capstan, Dolley HX Pro, Dolley B and C noise reduction, peak-level melers, a bias fine-lune control, a linear time counter, programmable music search, and an infor-scan mode that plays 15-second samples of every song on a cassette.

occasional peaks of +1 dB to +2 dB. There's typically no added distortion, and I like the extra punch when I'm listening to the tape on a portable or car stereo. Some decks may even allow higher peaks.

Variations in sound quality are rarely a problem when recording from LP's, especially older ones. Sadly, there's not an awful lot you can do about them short of editing out (recording over) unwanted surface noise in the beginning and end growes, careful—and quick—twists of the recording-level knob, or jabs at the pause control to the pause control.

Dolby B or Not Dolby B Home recordists—and even some

professional ones—are often confused about the multitude of Dolby-trademarked switches on a cassette deck: Dolby B, Dolby C, Dolby HX Pro, and sometimes Dolby S.

To begin with, none of these systems has anything to do with surround sound or movie playback—that's a whole other set of Dolby systems. Dolby B, C, and S are all encodedecode noise-reduction systems that operate by selectively bossing lowingerial control of the control of the imately over the same frequency range where most tape his occurs) during recording. On playback, these signals are scaled down to their proption in the hiss behind them. The tion in the hiss behind them. The tion is the hiss behind them. The tion is the hiss behind them. The least noise reduction and Dolby S the least noise reduction and Dolby S the

The trick is in that "encode-decode" business. In order to obtain any noise reduction, a tape recorded with Dolby B encoding should be played back on a machine having its Dolby B decoder switched on. Likewise with Dolby C and S. Dolby B-encoded tapes are listenable, but not very hi-fi, when played back without any decoding at all (say, on a cheapo headphone portable). Some people even prefer undecoded playback on portable and car systems for its boosted highs. Similarly, Dolby S tapes can be played back with listenable results using only Dolby B decoding. If you think that Dolby C has been left out of this quasi-compatibility arrangement, you're right. Dolby C in, Dolby

C out, or you may as well forget it.
My advice: If you have it, use Dolby S. If you don't ever expect your
tapes to be played on equipment that
lacks Dolby C, use Dolby C. Unless
you don't mind tape hiss, use Dolby B
in the absence of anything better.

Biased Opinions

Regardless of whether you use noise reduction or not, setting the proper recording bias for the tape should be a standard procedure. An ultrasonic signal applied to the tape along with the audio, bias acts as a



The Technics RS-TR777 (\$300) combines a playback-only deck with a two-bead recording deck. It features Dolley HX Pro, Dolley B and C noise reduction, a 45-second teak-wind time for C-60 cassettes, powered loading mechanisms, manual bias adjustment, and an automatic setup mode that adjusts bias, equalization, and recording level for optimal performance with the tape used.



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HOME TAPING TIPS

For a sonically successful compilation tank you have to:

- Know your music. Music that has little dynamic variation (including, unfortunately, much pop and rock) can stand higher background noise levels han very dynamic music (little most classical music and jazz). If the music has restricted dynamics, you can often get away with using a less expensive lape type as long as your deck has Dalber KIF Pro.

Know your tape. Select your tape with an eye toward the expected playback system. Some very cheap players don't have a normal/chrome (metal) switch. Normal (Type I) tape is universal, like a universal blood.

doons.
*Know your melers. Experiment with the kind of music you typically record by making a tape with the melers pasking at various levels.
Don't be afraid to go above the "O" mark occasionally, even often. Learn how high you can it dy your melers ride without hearing the effect of tape aduration: less of the very highest frequencies, high distortion, a hard, "Compressed" sound. A three-head deck makes this learning process very easy.

• Know your deck's transport controls. Most lape-recorder pause controls neither start nor stop on a dime (usually it's more like a quarter or half-dollar). Tight "segues" between selections require allowance for operation of the pause control.

in taping vinyi, you'll get smoother transitions if you start the deck in record, put it in pause, start the disc on a lead-in groove, and then release the deck from pause. — David Ranada "magnetic matchmaker" in that it is responsible for arranging the optimal union of the audio signal with the tape's magnetic layer. The amount of bias signal you use influences nearly all important aspects of a tape's sound quality, including distortion, frequency response, output level, and back-

ground noise. While most home decks adjust their bias settings automatically by detected of the control of the

high-frequency range over which high-

to accurately label your finished tapes and the insert cards in their cases as soon as you pop one out of the machine.

Don't neglect essential hardware maintenance. Clean your deck's heads, capstans, and pinch-rollers-either with a commercial cassette-deck cleaning system or with a little superpoyl achold on a cotton swab—superpoyl achold on a cotton swab—head demagnetizer is also a wise in-vestment and should be deployed after every 40 or so hours of use. (You don't really need to demagnetize a two-head deck if you use it to record either).

That's about it in terms of applied technology. But the true secret of making a first-rate tape compilation is to follow your tastes and sensibilities—which essentially boils down to making a prime selection of material



Part of Onkyo's Integra line, the TA-267 deck (\$536) features three heads, three motors, a closed-loop dual-capstan transport, Dolby HX Pro, Dolby B and C noise reduction, a real-time tape counter, CD synchro start with a compatible CD player, auto-space and record-mute controls. a peak-hold fluorescent display, and a remote control.

level signals can be recorded by dynamically varying the bias level according to the level of high frequencies in the music. HX Pro is a recordingonly process and usually cannot be turned off. It can be used in conjuntion with any noise-reduction system or none at all. It is a very desirable and the process of the process of the protain and the process of the process of the way be able to get away with a leave process of the process of the process of the protain high-frequency performance.

Taking Care

A pair of headphones can be indispensable for monitoring the progress of your recordings. You'll hear all the nitty grit between cuts (how about that for an obscure 1970's allusion?). Also, neatness counts, so don't forget and maintaining smooth (musically) appropriate) transitions between songs. Knowledge of and practice with your deck's pause control is essential (see "Need to Know" at left for more tips), but you don't necessarily need to leave the several seconds of silence required for most automatic music-sensing systems.

Admittedly, most, if not all, of the rituals described above will be a thing of the past once the age of digital home recording arrives in full. But until then, it may be worth rattling a few bones to prolong the life of your treasured dinosaurs.

Steve Schwartz is a New York Citybased free-lance writer whose neighbors wish he would find a quieter pastime.



their systems using other peoples' parts. Then, they try to compensate for the inevitable deficiencies and mis-matches.

For 70 years, Celestion has designed and built their own drivers and integrated them with straight-forward crossovers and proprietary enclosure technology. The result? Each system works cohesively as a unitary whole, rather than something that's been pasted together.

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The Difference is Fundamental

TRADE SECRETS

10 ways you can use retail tricks of the trade to make your shopping productive and hassle-free

Thomas Edison fooled that dog of his.
Yet it could be argued that the most profound transformation in recent years has not been in the equipment, but in how it is sold. With audio systems of one sort or another in an estimated 94 percent of American homes, hi-fi specialty shops have branched out into video and associated electronics.
Mass merchandisers and discounters, meanwhile, in their wars on each other and any other dealers who might get in the way, have relegated audio hardware to the status of fooster overs.

Entirely new ways of buying have surfaced: home shopping on cable, infomercials, and computer online services. Mail order is bigger than ever. Futurists like Jim Snider and Faith Popcorn project us into a world where product information will be readily available via modem and retail stores will be part circus to attract traffic. They tell us stores will be ruuseums where people go to look at the equipment, then go home to buy it. Even now, mass merchants often display audio equipment without thought to

hook-up or demonstration, giving shoppers little opportunity to compare operation or performance.

With such pressures on traditional retail establishments, it's surprising that their customer/salesperson relations tend to be spotty, at best. The skills and experience of audio floor-sales personnel span a wide range: You may encounter a talented, qualified, and knowledgeable person, or you may not. Retailers commit varying amounts of time and energy to customer service and employee product training. Although all will profess to high standards in these areas, their success in maintaining those standards also varies, and complete quality control of every customer encounter is impossible. All too often, mass merchandisers let their policies do the selling, demoting their salespeople to clerks.

In defense of audio salespeople, it should be said that their errors are mostly errors of omission failure to provide adequate information or guidance rather than any attempt to actually cheat the customer. Either way, however, you need to be prepared to look out for yourself.

BY MARK ELSON

TRADE SECRETS

Set a budget. but be openminded about it.

"How much do you want to spend?" may be a difficult question to answer right off the bat, especially if you don't know which features are available at which prices. Remember, though, that you generally get what you pay for-deals that seem too good to be true usually are. You should also be aware that there is usually a point of diminishing returns in what you pay for audio equipment. Beyond that point, prices often climb at a rate disproportionate to improvements in performance or features. You will pay a premium for the newest technology, too. There's nothing wrong with wanting to be the first on your block to own the latest, but don't let yourself get railroaded into buying way beyond your foreseeable needs. The best approach is to be cautiously open-minded. It may be wise, for example, to spend a few dollars more than you originally intended in order to smooth the path to future enhancements, such as a subwoofer or a multiroom system.

Educate yourself-and ask questions.

Read the articles and reviews, look around, get the buzz, ask your friends, elicit opinions-then make up your own mind, Unprepared salespeople fear well-informed customers. Talented salespeople, on the other hand, know that these customers are usually serious, ready-to-buy shoppers and will respond appropriately. Beware of being immediately shoved in front of "the best unit we've got." If you don't understand certain technologies or features, ask, and insist on a good answer. You're entitled to know what an S-video terminal is used for, or what "eight-times-oversampling" or "magnetically shielded" means if it's being used as a selling point.

Be prepared to "qualify" yourself.

"Oualifying the customer" is sales jargon for the process of determining what you need, want, and can afford. In this critical initial stage, the salesperson should be getting to know you, asking a series of questions to home

in on the products best suited to your particular requirements. Unfortunately, few of today's salespeople take the time to qualify their customers effectively. Some major retailers have a "3-minute rule": If a sale doesn't appear imminent by the end of that time. the employee is supposed to move on to other prospective buyers. A quick sales pitch, and they're off to someone else. Ironically, failure to qualify customers adequately is one of the main reasons these same retailers tend to suffer high return rates. Go figure.

One of the best ways you can help a salesperson help you is to give the answers, even when you have not been asked the questions. Have a sketch of your room, with cabinet dimensions if applicable. Measure the distance from the seating area to where the speakers (and, in a home theater, TV) will be placed. Know the room's acoustic properties. Be prepared to indicate your listening habits; types of music, how loud, amount of use, who will be operating the equipment, plans for future growth-in short, how you envision living with your system.

Get your hands on the equipment.

One of the big advantages of buying from a retail store is that you can actually see and touch the gear before you buy it. If you walk into a store to make a purchase, only to be told, "Please, don't touch that," walk out. An alert salesperson would say, "Let me show you how to work that." If you don't hear that, ask to be shown how to operate the piece, especially the remote control if there is one. Make sure you're comfortable with the design and understand the buttons and functions. Even if there is no separate sound room, insist on hearing the equipment. If it's not hooked up, don't settle for "Just read the instructions," Look at the back panel and make sure you understand the connections. By operating the equipment you'll have a much better basis for comparing various models.

Scope out the service and return situation.

Although most mainstream audio manufacturers have very high standards, no assembly line has a zero defect rate, even with the tightest quality control. You can find someone who has had a bad experience with just about any brand. But some manufacturers are better known than others for reliability and ease of service. Do a little unconventional reconnaissance: Call or visit some large repair facilities. A cooperative technician will often be able to tell you which brands and models his shop encounters on a regular basis. Try to gather information from several sources. Reputable retailers will always stand behind their merchandise, but dealing with defective equipment is still a headache and an inconvenience. Why should you be among the random casualties of lemonitis if you can help it? And just in case you do have a problem, find out what the store's service policy is before you buy. Will it take a faulty product back, or is it up to you to deal with the situation?

• Keep an eye on value.

Since overstock and year-end closeouts from manufacturers are rare. when you run across a legitimate one, consider it carefully. Close-outs are a good opportunity to spend less than you originally planned or to acquire a higher-caliber piece than you could otherwise afford. It is a myth that products get discontinued because they are defective. No maker can afford to dump products on the market that will ultimately boomerang back for service.

Value-conscious shoppers may also find good hunting among demonstration units or open stock (returns). Reputable dealers will not repack such merchandise and represent it as new. (Nevertheless, inspect the cartons before you take them homerepacks can happen, even by accident.) But bear in mind that demo units can be abused, especially in mass-merchant displays where there is little or no traffic control. Returns can actually be a safer value. A component may have been returned because the customer was not properly qualified. Or perhaps the equipment was bought with the intention of taking advantage of a retailer's liberal return policy. Monday morning, after the weekend parties, returns start piling up. Dealers plagued by such returns regularly discount them in order to resell them. You will probably never know the real history of a returned

TRADE SECRETS

component. If the box and packing look good, with all the accessories and manuals, and the unit itself appears in good shape, chances are that you've got a bargain—provided, of course, the price is right.



Despite surveys claiming that consumers are less concerned with price than with quality, service, and selection, price is the dominant theme in today's economy. Mass merchandisers shop each other relentlessly, invading competitors' stores, secretly reciting brands, models, and prices into palmheld mini-recorders. Ironically, these efforts are not intended for what you'd expect: bragging rights about having the lowest prices. The real reason is to discover where they can raise prices. Example: If Dealer A has a receiver for \$295, Dealer B is losing profit by tagging it at \$265. Discovering this, Dealer B would adjust his price upward to just slightly below

Dealer A's price, maybe \$289. Another factor in pricing is the wholesale cost to the dealer. Volume buys and first offers of close-outs are sometimes awarded to "key" dealers. Yet manufacturers with large market shares have a vested interest in maintaining equal footing for all their dealers. And a savvy dealer will pull items off the shelf, into the back room, before being embarrassed by price. What all this adds up to is that prices will tend not to vary dramatically among competing dealers in any particular region. That's not to say that you'll never find any real bargains. but devoting a lot of time to shopping solely for price may not be a very productive strategy.



Loss leaders are items selected, sometimes with manufacturers' blessings, to show dramatic price reductions and to be advertised as "just one example of the savings you'll find every day at Larry's Stereo Land." Quantities usually limited to a handful, sometimes demos only, Loss leaders can be legitimate values, depending on the dealer's ethics, but if you see something you want, you may have to move fast. Common practice, however, especially among the mass merchandisers, is toue loss leaders to attract you into the store, where the salesperson is "encouraged" to successful you something more profitable. "Bait and switch" is litegal, and the advantage tised merchandise must be offered for sale. But with subtle facial and vocaless, the subtle facial and vocative the message that Brand X onvey the message that Brand X onter the subtle facial and vocation to such a hot deal, which it often is not such a hot deal, which it often

Whether any aspect of this type of advertising and selling involves actual deception is perhaps open to debate: the important thing is to understand it and to prepare yourself accordingly. If the property of the property o

Get out and shop around.

Most dealers try to pre-empt your shopping. The common sentiment in the industry is that there is no such thing as a "be-back"-unless the sale is closed immediately, the customer will fall into the clutches of an evil high-pressure competitor and never be seen again. Many retailers feel they must resort to pressure tactics, which, of course, chase most people away, accomplishing the very thing they set out to prevent. Some even claim to have done your shopping for you. You may be shown a computer screen or printout that has prices for all the major dealers in the area-a very powerful and persuasive sales tool. Unfortunately, because prices can fluctuate daily, these lists are just too cumbersome to maintain accurately.

Shopping several dealers can uncover unexpected values. With more information, you'll have a basis of comparison for identifying bons fide bargains when you run across them. Some manufacturers provide a discountable, "private" line of goods to certain dealers. The model numbers may be slightly different from those in the regular line, the cabinet colors may be different, but the basic products are often identical or close.

Another great reason to shop is to compare dealers and their sales personnel. You can then compare not only prices but also the quality of service. All else being equal, the hardestworking salesperson deserves your business. In the event of a problem or questions, he's the one most likely to go the extra mile for you.

If you're not sure, don't buy it. If it's not right for you, don't keep it.

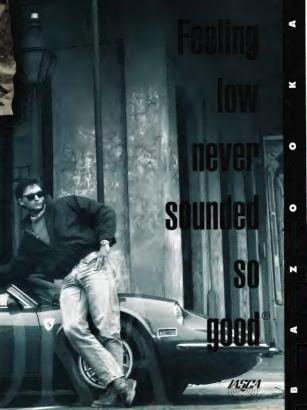
We've all heard, "If you don't like it, you can always bring it back." Liberal return policies are obviously a benefit to the shopper. Certainly any good dealer would rather give a refund than create bad will. In unskilled hands. however, a liberal return policy is all too often used as a "desperation close," encouraging the purchase of an inappropriate item that may not stay sold. One of the most effective ways for a salesperson to insure your satisfaction and limit returns is to make certain of a proper match between you and the equipment. That is done by determining your needs at the outset-that is, by qualifying you. In the short-term drive for daily business, many retailers forget that the objective is for merchandise to stay sold.

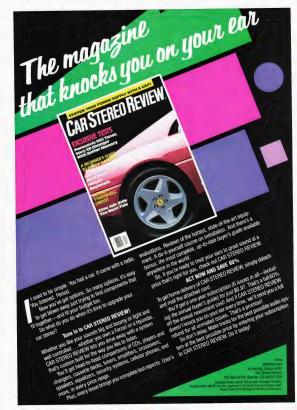
Other dealers remember all too well, in ways that you may not like. To keep a lid on the nightmare of returned merchandise, discount and warehouse clubs often have strict return policies. Be careful. You may pay write feet the besteep of the century and the control of the century and the c

a price for the "deal of the century Let's face it, it's a pain to return something. Your best defense is to make sure you've selected the right equipment in the first place. Salespeople are invariably taught about "overcoming objections" as a sales-closing skill. If you balk at buying, they are supposed to find out why and attempt to counter your reason. On the surface that seems a reasonable approach. In practice, however, it's often used as a poor substitute for properly qualifying customers-too little caring too late. This is usually the point where you'll feel pressured to buy. If you aren't ready to buy, just say so. Don't let anyone "hard-close" you. Buy when you're ready and only what you really want. You, and probably even the dealer, will be happier in the long run.

Mark Elson is a management and sales-training consultant in the retail electronics industry.







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"It's nice when people like your music, but that doesn't mean everybody has to."

et's get one thing straight: despite his reputation as a gloom-monger, Richard Thompson does not write depressing songs. Dark, obsessive, lovelorn songs where betrayal, damage, or death is always a distinct possibility? Sure. But who said that had to be decressing?

to be depressing? "Truly happy music just isn't very interesting," Thompson told me by phone from England, "The best popular music is always about sad stuff, or serious, violent, or dangerous stuff. People like songs like Tom Dooley-'Hang down your head, you killed that girl, you're going to die.' Or the Everly Brothers-'So sad to watch good love go bad.' That's the good stuff, and I'm really just doing the same thing. When you're writing a song, you have to write about people in an immediate way, because you don't have a lot of time. So sometimes you have to write about extreme people, or ordinary people in extreme circumstances.

"I don't try to be negative," he continued. "I like to think that in songs where people die, at least they're going to a better place. I do write sad songs sometimes, and I try to write real songs. But I don't think I've ever written a pessimistic song."

Hold on a second. What about the notorious End of the Rainhow (from 1973's "I Want to See the Bright Lights Tonight" with Thompson's then-wife Linda), which advises a newborn child that "There's nothing at the end of the rainhow / There's nothing to grow up for anymore"?

"Well, maybe that one," he conceded. "I still enjoy it as a song, though. Sometimes you have to push it, you have to go that far out in order to

come back again." Thompson's just-released album. "Mirror Blue" (Capitol), may not change his status as a beloved cult figure, but it will keep fans scratching their heads over why he's not more popular. Though not as hard-rocking as 1991's "Rumour and Sigh," it consolidates that album's move to accessibility, a trend that began when Thompson linked up with L.A. producer Mitchell Froom (Los Lobos. Crowded House). The songs feel more hopeful than they did at the time of his breakup with Linda (which produced one of rock's great catharsis albums, 1982's "Shoot Out the Lights"). And the music is more freewheeling, with jazz, country, and catchy pop/rock tunes, plus a saloon

ballad that sounds tailor-made for labelmate Frank Sinatra. English folk music is in there too, as it's been since Thompson's late-Sixties days as a member of Fairney Convention.

member of Fairport Convention. His real roots, however, go back to the Jerry Lee Lewis and Everly Brothers records that he wore out as a teenager. "I suppose I like the periods of music where there's real energy and freshness, and you get that when worlds collide," he said. "When you get Southern white boys trying to play the blues and it comes out as something new, and you can hear the excitement on the records. Or the early jazz things, where people were doing really innovative things. I find I have to remind myself of what the exciting things are, and to challenge myself to produce something that fresh. For me that's a matter of saying 'Does something have to be this complex?' I think my tendency is to be too complicated, and I have to remember to

keep it simple." mimple or not, some of Thompson's best songs these days are still more twisted than anything Fairport or his Fifties heroes would have attempted. On "Mirror Blue," for example, Shane & Dixie tells of a Sid and Nancy-type couple bound for death and glory; they make it only as far as death. The song gets its edge from its improbably jolly rockabilly arrangement and the nasty glee with which Thompson tells the sordid tale. "The point is that they both live by that phrase, 'Fame and love will never die.' And they both do, they both peter out. So they were wrong and it wasn't worth it.

If that sounds like a bleak vision, Thompson also has a way of cracking a wide smile when you least expect it. For instance, the new album's MGB-GT, which appears at first to be a fun song about a fast car, actually is a fun song about a fast car, set to a sprightly folk-dance tune.

"I wanted to extract revenge on America with tat one," he explained. "As a kid I was so frustrated by listening to Chuck Berry and Jan and Dean records, and not knowing what they songs about cars and surfring—we were over here in England scratching our heads, trying to play a line fifteen times to figure out what the words were, and it would always be some kind of carburetor. And of course the singing that made it especially uninsinging that made it especially unin-

ESSENTIAL RICHARD THOMPSON

A&M 4257
With Fairport Convention, featuring Matty Groves, the sixteenth century's

finest rave-up.

I WANT TO SEE THE BRIGHT
LIGHTS TONIGHT (1974)
HANNIBAL/RYKO 4407
With ex-wife Linda, and the English

folk-rock movement's finest moment.

GUITAR, VOCAL (1976)

HANNIBAL/RYKO 4413

Unreleased and alternate takes, including the achingly gorgeous A Heart Needs a Home.

SHOOT OUT THE LIGHTS (1982)
HANNIBAL/RYKO 1303
Adulterous guilt, unbelievable guitar (the title track). Pick hit: Wall of Death

RHINO 70831
Fascinating collaboration with
Captain Beetheart drummer John

French and guitar wizards Fred Frith and Henry Kaiser.

WATCHING THE DARK (1993) HANNIBAL/RYKO 5303

Three-CD career retrospective. High point the bone-chilling guitar epic Calvary Cross.

telligible—not fair, is it? I think jargon songs are the way of the future. No more plot songs from now on, no more boy meets girl. Just long lists of soare parts."

But seriously, Thompson really does have a surprise in store for his next album. When internal shakeups as Capitol kept. "Mittor Blue" without so the shelf for six months after its originally planned summer release date, he used the time to write most of the follow-up. "It's a por percord in the old-fast-ioned sense. Sixties-style, with 2½-minute songs. But you never know, or course. It might come out sounding just the same as any other record of

It's typical of Thompson to check his ego at every turn. He remains the most humble of cult figures, with drawing one of his albums, the perfectly fine live disc "Small Town Romance," because he couldn't accept his performances. And he brushes aside any suggestion that he's a world-class quitarist. 'If think I'm just a guitar player who works within the song format. Whatever I'm doing, I try to relate to a song. I may not be a great instrumentalist, but I do try to be a stylist."

Similarly, Thompson kept a low profile when he recently received two high veteran-rocker honors: a boxed set and a couple of tribute albums. His only involvement with the boxed set ("Watching the Dark," on Ryko) was to veto a few songs that he found embarrassing, "A few tracks made me uncomfortable," he said, "It could have been the performance or the recording quality, but there were a few I couldn't live with. I think there's good stuff and bad stuff I've done. It's interesting to go back occasionally, but only as a reference, to see if I'm moving backward or not."

for the tribute albums ("The World Is a Wonderful Place," learning mostly folk-circuit performers on Green Linnett, and the forthcoming "Beat the Retreat," featuring R.E.M. and other rock heavyweights on Capitol), he hasn't heard them and doesn't want to. "It honestly tried not to get involved. It's flattering, but it's sort of embarrassing to me, and it's distracting—I'd malter under the what I no doing. I so the construction of the control of the con

and the process of th

Reminded of Neil Young's famous "better to burn out than to fade away" dictum. Thompson's view is that if's even better not under the thing to the thing the thing the thing the where you have to die at twenty-five anymore," he said, "If you're a film director or a novelst you should just for you have to die at twenty-five anymore," he said, "If you're a film firetter or a novelst you should just for you have to die at twenty-five anymore, I don't said be not proposed to proposed the proposed of proposed to proposed the proposed proposed to proposed pr



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If you're looking for

power and control in one package, take

another look at the

integrated amp.

hese days, the integrated amplifier is rather the forgotten playfore is rather the forgotten player on the U.S. hi-fi field. In much of the rest of the world, however, the integrated amp—which you might think of either as a receiver without the tuner or as a preamp and a power amp combined in a single chassis—is the system building block of choice. How did this difference come about

Amendmental and a comal and a compared to the compared to th

Maybe we've been missing somehing. Even in today's age of digital audio and home theater, there's a place for a component that doesn't do everything. In fact, each argument in favor of a receiver can be turned on its head to support the value of the integrated unp.

this timer section. Sure, receivers have built-in AMFM reception—so you get more for your money. On the other hand, integrated amps are ideal for music lowers who live in hopeless-reception areas or who have no interest in radio. Why pay for circuitry you cannot or will not use? Integrated



BY DANIEL KUMIN

The Acres 51A 100 durst reput ameliant (\$800) conpleys passive controls and a high cancillythy great socially and a class for prantitionilles. It's select to deliver up to 100 water per assisted.



Part of Pioneer's Elite series, the A-51 (\$350) is rated to deliver 100 watts per channel into 8 ohms. It has six inputs, including phone, and features a source-direct switch and a bypassable phone-equalization circuit.



inputs, and three video inputs. Rated power output is 80 watts each for the front left and right speakers, 90 watts for the center, and 35 watts each for two surrounds.



Denon's AVC-3030 (\$1,350) packs a Dolby Pro Logic decoder, a nine-mode ambience processor with adjustable parameters, and a power section rated to deliver 110 watts each to the three front channels and 35 watts apiece to a pair of surround outputs.



Harman Kardon's HK6350R (\$499) is rated to deliver 70 watts per channel linto 8 ohms. It has one external-processor loop, two tape loops, loudness-compensation and infrasonic-filter switches. and four inputs, including phono.

amps should also appeal strongly totwo additional classes of music leases of the strong whatever comes in a receiver, and 2) casual listeners who are satisfied with the performance of an inexpensive AM/FM table radio or who don't mind wiring up an old, cast-off receiver and using it as an occasional tuner.

Simplicity. As receivers have evolved into ever more feature-laden forms. their perceived value has increased, but so has their complexity-to the point where long sessions with the owner's manual have become an indispensable part of using today's A/V models. In stark contrast, most of today's integrated amps are beacons of ergonomic sanity. If you want a generous complement of audio inputs and control functions, such as two or more tape loops with bidirectional dubbing and independent source selection for recording and listening-without mind-boggling visual displays and a computer-like user interface-an integrated amp is the way to go. Another plus: Most integrateds still use good old knobs and familiar buttons and switches instead of multifunction arrow keys and alphanumeric keypads.

Expandability and flexibility, Many integrated amps possess a hidden feature that a majority of receivers do not: independent access to their preamp and power-amp sections via rearnanel jacks (usually connected by removable "jumpers") or switches. The benefit is that you can upgrade to a higher-power outboard amplifier and still use the on-board power amp to drive a pair of extension speakers or to biamp a subwoofer/satellite system. It also means you could add a surround-sound processor/preamplifier to your system at a later date and use the integrated amp's power section to drive some of your speakers and an outboard amp for the others.

Compact size. Integrated amplifiers tend to take up less space than comparable receivers—especially the AIV variety. "Midir" size integrated amps, in particular, are worth a serious look because of the surprising levels of power and performance they can offer. The surreund option. Only about a dozen of the integrated amps availages with on-board surround-sound decoding and processing. By comparison, there are more than 150 re-

ceivers to choose from, and a solid itwo-thirds of them are AV desired that include surround-sound facilities. So if plain old two-channel steror, the control of the con

And if you want to ease into home theater at your own pace, an integrated amp may be an excellent starting point, because it'll let you select a surround processor and additional amplifiers instead of just accepting what-

ever is built into an A/V receiver. Audio performance. Most audiophiles would probably agree that at any price level there's an integrated amplifier capable of delivering better performance than a receiver of the same price. There are a number of reasons for this. First, because there is no tuner to worry about, integrated-amp designers can (and often do) pay more attention to power capacity and component quality. Second, the absence of a tuner also means simpler internal electronics. Because there are fewer power-supply circuits, and no RF circuitry at all (nor any video circuitry as in most A/V receivers), the dynamic range is often greater and the ultimate audio signal cleaner. Third, most integrated amps shun the elaborate displays common to receivers these days-another potential noise source. Variety. With few exceptions, re-

ceivers are monotonously similar from brand to brand in terms of features, watts per dollar, and even front-panel layout and styling. The integrated-amp field seems a riot of variety in comparison, with many shapes, sizes, and feature complements—from a 50-watt purist audiophile model for \$1,100-plus to a feature-packed 150-watt workhorse for \$600 to a basic followatte from \$6500 to a basic followatte from \$6500 to a basic followatter for moder \$300.

Value walue means different things to different people. But if you're self fieldity at a finisher-than-mass-market fieldity at a reasonable price, or elegant simplicity without sacrificing fundamental performance, integrated amps demand a closer look. Sure, you'll probably be able to find a comparably priced receiver that delivers as much power. But you'll be hard pressed to match the add-on/upgrade flexibility of a integrated amplifier.



Linn's Majik-i (\$1,095) is rated to deliver 33 watts per channel into 8 ohms. It has six inputs and accepts optional plug-in modules for tuner and multiroem-control facilities.



NAD's no-frilis Model 304 (\$379) has a preamp-out/main-amp-in loop to accommodate an outboard amplifier, two sets of gold-plated binding posts, and five inputs, including phone. It's rated to deliver up to 35 watte per channel into 8 ohms.



othey's a melan Arvation (a), flour has a delay fit toget security and adjustable ambience processor, ten audio inputs, and five video inputs. Power output is 85 watts each to three front channels and 35 watts each to two surrounds.



Besides digital Dolby Pro Logic decoding, Yamaha's DSP-A1000 (\$1,499) has twenty-two surround modes, a center-channel equalizer, and filteren inputs. Power output is 80 watts each to three front channels and 25 watts each to four effects channels.

THE HOOT HELD SONY BUILD YOUR HOME FROM THE SOUND UP. Why settle for an A/V room? With a Sony-certified audio/video designer, you can have an A/V home. Hidden speakers, disappearing screens. And DST, Sony's unique digital A/V system that entertains you in every room. For the latest in innovative Sony technology, all designed around you, call Sony Consumer Integrated Systems now. 1-201-358-4444



WHLE the familiar old analog cassette is still the star of the home-recording show, the number of digital recorders vying for our attention is growing steadily. Digital Compact Cassette (DCC) and MiniDisc (MD) machines are now available from several manufacturers. And, of course, the DAT format is alive and well among high-end audio enthusiasts, musicians, and professional and semi-pro recordsts. The following guide contains summary descriptions of more than one hundred analog and digital decks as well as an extensive rundown of analog and digital blank media (we've omitted open-reel equipment and tape, which are used mainly by professionals). The listings are selective because of limited space, so if a particular model or brand does not appear, that is no reflection on its quality. Specifications, features, and prices were provided by the manufacturers, and all prices are "suggested retail"; actual selling prices vary. Now, reset that counter and hit secons.



AIWA

XK-S9000 3-Head Cassette Deck

Dolby S., B. C., HX Pro. Features data I 8-bit DAC convertes with 8x overamping; sendust erase head and amorphous record and play beats, 4-motor tempore, data captain. Digital beats, 4-motor tempore, data captain. Digital util record-level and bias controls: auto tapebas selector; repeat, linear tape counter with tape-end signal: L/R fluoroscent peak-level meries; remote control. FR 201-50.00 Ht 23 dB high bias; SN (metal) 68 dB Dolby, 8x dB high bias; SN (metal) 68 dB Dolby, 8x dB Bigh bias; SN (metal) 68 dB Dolby, 8x dB Bigh bias; SN (metal) 68 dB Dolby, 8x dB Bigh bias; SN (metal) 68 dB SS dB

AMD-100 Portable MD Recorder

Features shock-resistant memory. Piber-optic digital input and output mic input, Asto pain control: mic attenuator; SCMS copy-protection system; table-of-contents editing; date and time functions; direct track access; track search; 24-darkacter LCD with battery-strength indicator. Includes AC adaptor, rechangeable battery, blank disc., includes AC adaptor, rechangeable battery, blank disc., includes AC adaptor, personal production of the control of the

AD-F810 3-Head Cassette Deck Dolby B. C. HX Pro. Features double-gap

sendust crase head and record and play beads; dual capstans. Direct-in inputs; headphone jack with volume control. IC-logic controls; auto tape-bias selector; auto record mute; repeat. LR peak-level meters; timer; manual record-level and bias controls. FR 20-13,000 Hz ± 3 dB (high bias); SN (metal) 65 dB Dobby, R 8 dB Dolby C above 5,000 Hz; W&F 0,035% wrms. 17 x 5 x 115 m; 1110 m.

ARCAM

Delta 100 3-Head Cassette Deck

BANG & OLUFSEN Beocord 7000 Cassette Deck

Dolby B. C. HX Pro. Integrates with Beosystem 7000. Front-loading drawer; autoreverse; computer-controlled record-level setting; direct track access; auto playback NR selection; track programming; musis search; auto bias selector; auto space; timer. FR 30-18.000 Hz ±3 48 (high bias); SN (high bias) 65 48 Dolby B, 74 48 Dolby C; W&F 0.09%. Polished-aluminum or white finish. Id-9/x x x 12/3/in; 19 lb. ...\$12.50

Beocord 4500 Cassette Deck Dolby B. HX Pro. Integrates with Beosystem

CARVER

TD-1770 3-Head Cassette Deck

Dolby B, C, HX Pro. Features metal alloy record and play heads; MPX filter, Headphone iack. Full-logic controls: adjustable bias: auto tape-bias selector; record-balance control; blank skip; record mute; program play and search; repeat; two fluorescent peak-level meters; digital real-time counter; timer; remote control. FR 20-19.000 Hz +2. -3 dB: S/N 75 dB Dolby C: W&F 0.05%. 19 x 51/4 x 121/2 in; 15 lb.......\$600

TDR-1550 Cassette Deck

Dolby B, C, HX Pro. Features oxygen-free record/playback-head core: MPX filter. Headphone jack with volume control. Autoreverse: full-logic controls; adjustable bias; auto tapebias selector; program search; repeat; two fluorescent meters; digital real-time counter; record mute: timer: peak-hold meter: remote control FR 20-18,000 Hz ±3 dB; S/N 75 dB Dolby C W&F 0.05%. 19 x 51/4 x 121/2 in; 15 lb.....

DENON

Analog cassette decks feature adjustable hias. auto space, a headphone jack, and compatibilitv with Denon's IS-system remote control.

DTR-80P Portable DAT Recorder

8x oversampling, dual 18-bit AI hybrid multi/1bit D/A converters, dual sigma-delta A/D converters. Features 20-bit digital filter. Fiber-optic/coaxial digital inputs; coaxial digital output; analog mini-jack line-level input and output; headphone jack. ID-code editing; 100x fastwind and search speeds; 3-10x cue/review speed; peak-hold meters; backlit LCD. Operates on 4 alkaline batteries for 31/2-hr record or 4-hr playback time. Includes AC adaptor. Sampling rates 48,000, 44,100, and 32,000 Hz: FR 20-22,000 Hz ±0.5 dB; S/N 90 dB; THD 0.008%; dynamic range 90 dB. \$900 RC-423, Wired remote control.

DRS-810 3-Head Cassette Deck

Dolby B, C, HX Pro. Features horizontal-loading tape drawer, Super Permalloy combination head in die-cast aluminum base: dual-capstan 3motor transport; ceramic-composite stabilizer; dual power supplies. Tape-bias selector; auto tape-monitor function; program search; recordbalance control; peak-hold fluorescent meters; linear time counter with remaining-time display. FR 20-20,000 Hz ±3 dB metal; S/N 75 dB Dolby C; W&F 0.038% \$500

DRM-740 3-Head Cassette Deck

Dolby B, C, HX Pro. Features Super Permalloy combination head in die-cast aluminum base: dual-capstan 3-motor transport; dual power supplies. Synchro record with compatible CD players; auto tape-bias selector; program search; record-balance control; linear real-time counter; peak-hold fluorescent meters. FR 20-20,000 Hz ±3 dB metal; S/N 76 dB Dolby C; W&F

DRW-840 Double Cassette Deck

Dolby B, C, HX Pro. Features revolving amorphous-alloy heads: 2-motor transports with nonslip reel drive; dual power supplies. Autoreverse for both transports; high-speed dubbing; auto tape-bias selector: program search; recordbalance control; 2-cassette simultaneous record and sequential record/play; synchro record with compatible CD players; peak-reading fluores-cent meters. FR 20-18,000 Hz ±3 dB metal; S/N 74 dB Dolby C; W&F 0.06% \$400

DRW-660 Double Cassette Deck Dolby B, C, HX Pro. Computer-controlled

transports; dual power supplies. Autoreverse; high-speed dubbing; 2-cassette sequential play; synchro record with compatible CD players: auto tape-bias selector, program search; level meters. FR 20-18,000 Hz ±3 dB metal: S/N 74 dB Dolby C; W&F 0.07% ...

HOME RECORDING EQUIPMENT

DRR-730 Cassette Deck

Dolby B, C, HX Pro. Computer-controlled 2motor transport with non-slip reel drive; dual power supplies; revolving record/play head. Autoreverse; synchro record with compatible CD players: auto tape-bias select search: level meters. FR 20-19,000 Hz ±3 dB metal; S/N 74 dB Dolby C; W&F 0.06%\$300

DRS-640 Cassette Deck Dolby B. C. HX Pro. Features horizontal-load-

ing tape drawer; computer-controlled 2-motor transport; ceramic-composite stabilizer; dual ower supplies. Synchro record with compatible CD players; auto tape-bias selector; pro gram search; record-balance control; peak-hold fluorescent meters; linear time counter with remaining-time display. FR 25-18,000 Hz ±3 dB metal.

DRM-540 Cassette Deck

Dolby B, C, HX Pro. Features computer-c trolled 2-motor transport with nonslip reel drive: Super Permallov head; dual power supplies; switchable MPX filter. Synchro record with compatible CD players; auto tape-bias selector; program search: record-balance control: adjustable bias; digital tape counter; fluorescent display with peak-level meters. FR 25-18,000 Hz ±3 dB metal; S/N 74 dB Dolby C; W&F 0.055%



JVC TD-W709TN

DUAL CC-5850RC Cassette Deck

Dolby B. C. HX Pro. Features amorphous record/play head; computer-controlled 2-motor drive. Headphone jack. Adjustable bias; auto tape-bias selector; program search; electronic counter with memory; level display with peak hold; record mute; balance control; repeat W&F 0.05% wrms. \$505

CC-8065RC Cassette Deck Dolby B, C, HX Pro. Features computer-cor

trolled 2-motor drive. Headphone jack. Adiustable bias: auto tape-bias selector; program search: record mute; timer; 4-digit counter memory. W&F 0.06% wrms...

FISHER CR-W983 Double Cassette Deck

Dolby B, C, HX Pro. Headphone jack. Full-logic controls; autoreverse for both transports; high-speed dubbing; 2-cassette sequential play; auto bias selector; timer. FR 50-16.000 Hz ±3 dB high bias; S/N 62 dB Dolby B, 70 dB Dolby C; W&F 0.12% wrms; THD 1.2%. 161/2 x 53/4 x 10% in: 0 lb

CR-W683 Double Cassette Deck

Dolby B. Headphone iack. Autoreverse for one transport; normal/high-speed dubbing; 2-cassette sequential play; L/R record-level controls; auto tape-bias selector; dual 5-LED level meters. FR 50-14,000 Hz ±3 dB high bias; S/N 62 dB Dolby B, 54 dB no NR; W&F 0.18% wrm: THD 1.5%. 161/2 x 51/6 x 101/6 in; 9 lb\$150

HARMAN KARDON The following feature jacks for Harman Kardon's system remote control.

DC5300 Double Cassette Deck

Dolby B, C. Features hard-Permalloy heads; separate motors for capstans and reels; discrete play circuitry. Autoreverse; adjustable bias: normal/high-speed dubbing; linear time counter. FR 20-18,000 Hz high bias; S/N (high bias) 57 dB no NR, 65 dB Dolby B, 73 dB Dolby C; W&F 0.06% wrms...

TD4400 Cassette Deck

Dolby B. C. HX Pro. Features 2 isotropic heads; separate motors for capstan and reels; discrete record/play circuitry; switchable MPX filter. Auto tape-bias selector; program search; intro scan; adjustable bias; linear time counter; dual LED peak meters. FR 20-20,000 Hz ±3 dB high bias; S/N (high bias) 57 dB no NR, 65 dB Dolby B, 73 dB Dolby C; W&F 0.05% wrms. 171/4 x 41/4 x 131/2 in; 12 lb... TD4200. As above, without Dolby HX Proprogram search, or intro scan, Features 2 hard-Permalloy heads ...

XD-Z507TN DAT Recorder

1-bit PEM D/A converter, 1-bit A/D converter, Features 4th-order noise shaping. Long and standard play modes; SCMS copy-protection system. Analog, fiber-optic, and coaxial inputs and outputs; headphone jack. Auto ID edit; 2 repeat modes: remote control, FR 2-22,000 Hz ±0.5 dB standard play, 2-14,500 Hz ±0.5 dB \$1,000

TD-V661TN 3-Head Cassette Deck Dolby B. C. HX Pro. Features closed-loop dual-

capstan design with direct-drive motor; powered cassette lid: switchable MPX filter. Headphone jack with volume control; CD-direct input. Full-logic controls; adjustable bias; peak search; fluorescent peak-display/level meters; auto record mute; timer record/play; auto record-level adjustment with compatible CD player; auto tape-bias selector; balance contro Compu Link system compatibility ...

TD-R441TN Cassette Deck Dolby B, C, HX Pro. Features powered cassette

lid: auto record-level adjustment with compatible CD player. CD-direct input; headphone jack. Full-logic controls; autoreverse; adjustable bias; auto record mute; timer record/play; auto tape-bias selector; balance control; fluorescent peak-display/level meters; Compu Link system compatibility...

Double Cassette Decks TD-W805TN Double Cassette Deck

Dolby B, C, HX Pro. Features powered cassette lids. Headphone jack. Autoreverse record/play for both transports; computer-controlled fulllogic controls; high-speed dubbing; adjustable bias for one transport; peak-display/level meters; auto/synchro record mute; timer recordplay; auto tape-bias selector; auto record-level adjustment with compatible CD player; Compa Link system compatibility

TD-W790TN Double Cassette Deck
Dolby B, C, HX Pro. Features headphone jack;
autoreverse record/ play for both transports;
full-logic controls; auto record-level adjust with
compatible CD player; high-speed dubbing;
switchable fluorescent peak-display/fevel meters; autofsynchro record mate; auto tape-bias
selector; balance and pitch controls; Compu
Link system comatibility.

\$350

TD-W39TN Double Cassette Deck
Dolby B, C, HX Pro. Headphose jack. Full-logic controls; autoreverse record/play for one
transport, other transport play-only; auto tapebias selector; pitch control; auto record-level
adjust with compatible CD player; high-speed
dubbing; auto/synchor record mate; switchable
fluorescent peak-display/level meters; Compa
Link system comentability.
\$2300

KENWOOD

KX-5550 Cassette Deck
Dotby B, C, HX Pro. Features 3-motor mechainsm; tap-pain stabilizer; MPX filter, Pull-logic controls; autoreverse; auto bias adjustment; bias preset memory; synchro record with compatible cassette decks; A/B repeat; timer; program search; L/R record-level/balance controls;
fluorescent level meters; system remote-control
compatibility.

Double Cassette Decks The following feature synchro normal/highspeed recording with compatible CD players.

KX-W8050 Double Cassette Deck Dolby B. C. HX Pro for both transports. Fea tures switchable MPX filter. Headphone jack. Autoreverse record/play for both transports; 2cassette simultaneous/sequential record; 2-cassette sequential play; auto bias adjustment for both transports: index scan for one transport program search; blank skip; repeat; high-speed dubbing; auto tape-bias selector; fluorescent rec-level meters; system remote-control com-patibility. FR 20-18,000 Hz ±3 dB high bias; S/N 65 dB Dolby B, 72 dB Dolby C, 57 dB no NR: W&F 0.06% wrms, 11 lb.... KX-W6050. As above with Dolby HX Pro for one transport, one tape counter, auto MPX-filter switching. No auto bias adjustment, simultaneous record, or blank skip. FR 25-16,000 Hz ±3

KX-W469 Double Cassette Deck
Dobly B. C for one transport. Features switchable MPK filter. Headphone jack. One transport
autoreverse recordigilay, other autoreverse pelayonly: 2-cassette sequential play: index scan for
one transport; high-speed dubbing; auto tapebias selector; system remote-control compatibiaity. FR 25-16,000 Hz 32 dB high bias; SN 66
dB Dobly B, 73 dB Dobly C, 52 dB no NR:
W&F 0.09% wms. 10 lb. 51599

dB high bias: S/N 68 dB Dolby B, 74 dB Dolb

C, 52 dB no NR; W&F 0.09% wrms. ...

MARANTZ

DD-92 DCC Recorder
Dual 18-bit A/D converters, 1-bit PDM D/A

couversion. Features motor-driven volume control. Variable and fixed line-level couptry; RC-5 system remote-control interface. Analog-casstee playback compatibility with Dobly B and C NR; DCC text-information display including to the control of the control of the control of the counter with absolutes, track, and remainingtime displays; 5 switchable record markers; 3 repeat modes; blush tdsp; program search; synchro record with compatible CD players; report of the compatible CD players; re-

SD-725 Double Cassette Deck

side panels ...

Dolby B. C. RX Peo for both transports. Autoreverse record/play for both transports; fulllogic controls; switchable MPX filter, 2-cassette simultaneous/sequential record; intro scan, program search, and blank skip fro both transports; fluorescent peak-level display with peak hold: remote control. FR 2018;000 Hz ±3 dB high bias; SN 59 dB high bias, no NR; W&F 0.06% www. 17% at 36 x 1184 in: 21 https://dx.

SD-63 3-Head Cassette Deck

Dolby B. C. HX Pro. Features double-gap ferrite erase head; hard-Fermalloy record and erase heads; dynamically balanced alloy flywheel. Microprocessor logic controls; tape edit; synchro record with compatible CD players; adjustable bias; switchable MPX filter; record-evel/balance controls; flaorescent display; remote control, FR 20-17,000 Hz ± 28 high bias; SN (high bias) SS dBA no NR, 68 dBA bigh bias; SN (high bias) SS dBA no NR, 68 dBA Dolby B, 79 dBA Dolby C, WAF 005%. 169x x 30m.

SD-525 Double Cassette Deck Dolby B, C, HX Pro. Features dual-gap ferrite

Dotty B. J. Th. Pin. Pocuration data-gap terms reside. RC-5 system remote control laterface. One transport autoriverse recordiplay, one sintered record residency, full-logic controls; synchrorecord with compatible CD players; intro searprogram search; bhank skip; high-speed databing; floorescent peak-level display with peak hold; remote course? RF 20-17 000 Hz 23 dB hold; hold; remote course? RF 20-17 000 Hz 23 dB hold; peak-growth of the peak-level side peak-growth of 12 hourse peak-level display with peak 12 hourse peak-level display with peakley peak-level peak-level display with peakley peak-level peak-level

SD-52R Cassette Deck Dolby B, C, HX Pro. Features dual-gap ferrite erase head; DC servo-controlled tape-drive motor and separate DC motor for fast winds; dynamically balanced flywheel: dual-azimut head adjustment; switchable MPX filter. RC-5 system remote-control interface. Autoreverse: full-logic controls; synchro record with compatible CD players; peak-level display with peak hold. FR 30-18.000 Hz ±3 dB high bias, no NR: S/N 59 dBA high bias, no NR; W&F 0.06% wrms. 16½ x 4½ x 11 in; 11 lb ... \$349 SD-52, As above, without autoreverse. Features adjustable bias. FR 30-20,000 Hz ±3 dB highbias, no NR

M A D Model 6100 Monitor Series Cassette Deck

Dolby B, C, HX Pro. Features switchable MPX filter. Dyneq range expansion; Play Tim control to optimize high-frequency characteristics of Dolby-encoded recordings; full-logic controls; car-stere DQ: adjustable bias; remote control. FR 30-19,000 Hz ±3 dB; SN 67 dB Dolby B, 77 dB Dolby B, 77 dB Dolby C, 73 dB no NR; W&F 0,06%. 17½ x 4½ x 10 ¾ in; 10 lb \$\$499}

Model 602 Cassette Deck



NAKAMICHI

Model 1000 DAT Recorder Features 4-head design for off-tape monitoring; microprocessor-controlled direct-drive reel motors. Coaxial/fiber-optic digital input/output. In-

cork. Conxulariters-opuc origin impulcourput. Indecting, programs ascarch, digital fider, remote decting, programs ascarch, digital fider, remote Sampling mate; 48,000, 44,100, and 32,000 ft.4. Sampling mate; 48,000, 44,100, and 32,000 ft.4. Systems of the second original processor designed for above, Features & oversampling. 2-bit calibrated D/A converters; 16-bit auto-calibrated for above features & oversampling, 2-bit calibrated D/A converters; 16-bit auto-calibrated for above features and second original fileter; digital glitch-exactellation circuitry, Muting terr, digital glitch-exactellation circuitry, digital glitch-exactellation circuitry, digi

Dragon 3-Head Cassette Deck Dolby B, C. Features microprocessor contro

suto azimuth-correction system; discrete Crystalloy record and pishwack heads; direct-drive motors; direct-coupled record and play amp; can tage-slack-reducing mechanism. Headphone tracting slow guides; tape-pe-bas and EQ 2-bone test occilion; separate tage-bas and EQ switches; 2-spond cosing and fader; auto record passe; left, right, and master input-level controls; coupus-level control; record mast; defeatable intension; filter; decironic constart with memory; properties of the control of the control of the Dably B, 72 dBA, Dobby; C, W&F 0.019% syrun; 71% x 55% x 11% in; 21 lb. \$2,599

CR-7A 3-Head Cassette Deck

Dolby B. C. Features dual capstans; 3 motors; discrete Crystalloy record and playback heads; manual azimuth adjust. Headphone jack. Output-level control; menory stopplay; record mate; auto/manual tape-bias/EQ selection; auto fade; repeat; fluorescent meters; real-time counter; remote control. FR 18-21,000 Hz 23 dB high bias; SNr (neta) 66 dB Dolby B. 72 db Dolby C; W&F 0027% wrms. 1714 x 5/x x.

DR-1 3-Head Cassette Deck Dolby B, C. Features multiregulated power sup-

ply adjustable play-head azimuth; daul capatism, DC-servo capatim motor; and to slick takeup; integrated construction of head and outputs. Biddrectional auto exacts: adjustable bias; respectiment; correct outputs of the control HOME RECORDING EQUIPMENT

DR-3 Cassette Deck

Dolby B, C. Features DC-servo capstan motor; regulated power supply; switchable MPX filter; pressure-pad lifter; auto slack take-up. Bidirectional auto search; adjustable bias; repeat; timer; record mute; tape-bias selector with interlocked EQ selection; 4-digit counter; fluorescent display; system remote-control compatibility. FR 20-20,000 Hz ±3 dB; S/N (metal) 64 dBA Dolby B, 70 dBA Dolby C; W&F 0.06% wrms. 17 x 4 x 1254 in; 14 lb ...



ONKYO The following feature Onkyo RI-system remotecontrol compatibility.

Integra TA-2800 3-Head Cassette Deck Dolby B. C. HX Pro. Features 3-motor microcomputer-controlled transport; dual capstans; isolated transformer; linear power supply; switchable MPX filter, Variable outputs, Program search; record calibration; auto tape-bias selector; full/block repeat; timer; fluorescent peak-hold level meters; remote control, FR 20-19,000 Hz high bias; W&F 0.035% wrms. 171/a x 51/4 x 141/2: 14 lb

Integra TA-207 3-Head Cassette Deck

Dolby B. C. HX Pro. Features 3-motor micro computer-controlled transport; closed-loop dual-capstan drive; isolated transformer; linear switching power supply; discrete power-supply regulators; switchable MPX filter. Synchro record with compatible CD players: repeat; program search; auto tape-bias selector; fluorescent display with peak-level meter; auto spacing; peak hold; remote control. FR 20-19,000 Hz high bias; W&F 0.04% wrms. 18 x 51/4 x 141/2 in; 15 lb.

TA-R401 Cassette Deck Dolby B. C. HX Pro. Features switchable MPX

filter. Full-logic controls; autoreverse; auto tape-bias selector; synchro record with compatible CD players: program search: auto space: timer, single/block repeat; master and balance input controls; 4-digit electronic counter; fluorescent display; peak-level indicator; remote control, FR 20-18,000 Hz high bias; W&F 0.07% wrms, 18 x 4¼ x 12¼ in: 11 lb \$380

TA-203 Cassette Deck

Dolby B. C. HX Pro. Features switchable MPX filter. Headphone jack. Full-logic controls; synchro record with compatible CD players; auto tape-bias selector; full/block repeat; auto space; master and balance input-level controls; fluorescent display with peak-level indicator; peak hold. FR 20-18,000 Hz high bias; W&F 0.07% wrms. 18 x 41/4 x 121/6 in; 11 lb

TA-R301 Cassette Deck

Dolby B, C, HX Pro. Features switchable MPX filter. Headphone jack. Full-logic controls; autoreverse; synchro record with compatible CD players; auto tape-bias selector; block repeat; auto space; master and balance input-level controls; peak hold; peak-level fluorescent display. FR 20-18,000 Hz high bias; W&F 0.07% wrm: 18 x 434 x 1256 in; 11 lb

Double Cassette Decks Integra TA-RW909 Double Cassette Deck

Dolby B, C, HX Pro. Features 3 motors per transport; copper-plated chassis; powered loading. Headphone jack with volume control. Autoreverse record/play for both transports; fulllogic controls; random play; repeat; 2-cassette simultaneous/sequential record and sequential play; synchro record with compatible CD players; blank skip; programmable music search; high-speed dubbing; switchable auto space; auto bias selector; input level and balance controls: LED peak meter: fluorescent display: re mote control. FR 20-18,000 Hz high bias: W&F 0.065% wrms. 18 x 5¼ x 4¼ in; 18 lb.......\$700

TA-RW505 Double Cassette Deck

Dolby B. C. HX Pro. Headphone iack. Full-logic controls; autoreverse record/play for bot transports; 2-cassette simultaneous record and sequential play; synchro record with compatible CD players; switchable auto space; auto tapebias selector; high-speed dubbing; input level and balance controls; program search; repeat. FR 20-16,000 Hz high bias; W&F 0.07% wrms. 18 x 41/4 x 121/6 in: 13 lb...

TA-RW414 Double Cassette Deck

Dolby B. C. HX Pro. Headphone iack. Full-logic controls; autoreverse record/play for both transports; program search; synchro record with compatible CD players; switchable auto space; auto tape-bias selector; 2-cassette sequential play; high-speed dubbing; input level control; fluorescent peak level indicator. FR 20-16,000 Hz high bias; W&F 0.07% wrms. 18 x 4¼ x 121/4 in: 13 lb. \$350

TA-RW313 Double Cassette Deck

Dolby B, C, HX Pro. Headphone jack. Full-logic controls; one transport autoreverse record/ play, one autoreverse play-only; synchro record with compatible CD players; switchable auto space; auto tape-bias selector; 2-cassette sequential play; high-speed dubbing; input level control; LED peak level indicator. FR 20-16,000 Hz high bias; W&F 0,07% wrms, 18 x \$240 4% x 12% in: 12 lb...

PTIMUS BY RADIO SHACK

DCT-2000 DCC Recorder

64x oversampling, dual A/D and D/A converters. Fiber-optic and coaxial digital inputs and outputs; analog inputs; headphone jack with volume control. Analog-cassette playback compatibility with Dolby B and C NR: autoreve 20-track programming; program search; 12character text display; total/selection elapsedand remaining-time displays; remote control. DCC: FR 5-20,000 Hz ±0.5 dB; THD 0.003%; S/N 105 dBA; ch sep 85 dB. Analog: FR 20-17,000 Hz ±3 dB; S/N 63 dB Dolby B, 71 dB Dolby C. W&F 0.07% wrms...

SCT-52 Double Cassette Deck Dolby B, C, HX Pro. Features computer-com trolled bias, EQ, and record-level optimization; hard-Permalloy record/play heads; ferrite erase head. Headphone jack. Full-logic controls; autoreverse for both transports; 2-cassette sequential play; normal/high-speed dubbing; synchro record with compatible CD players; program search; blank skip; record-level control; record mute; auto tape-bias selector; fluorescent display with dual peak-level meters. FR 25-16,000 Hz high bias; S/N 57 dB no NR; W&F 0.1% wrms. 16% x 4¼ x 9¼ in...

PHILIPS

The following feature Philips's Enhanced System Intelligence bus that enables communication among 900 Series components.

DCC900 DCC Recorder

1-bit Bitstream A/D and D/A conversion. Features autoreverse; motor-driven cassette loading. Headphone jack with volume control. Analog-cassette playback compatibility with Dolby B and C NR: 12-character fluorescent text display: synchro record with compatible CD players; record balance and level controls; timer record/play; level meters; remote control....\$800

Headphone jack. Analog-cassette playback compatibility with Dolby B NR; autoreverse: 12-character fluorescent text display. Includes AC adaptor, headphones with remote control carrying case, and rechargeable battery. FR 5-20,000 Hz: THD 0,003%: S/N 50 dB: dynamic range 108 dB; ch sep 90 dB. 41/4 x 11/2 x 41/4 in; 1.1 lb

FC-950 3-Head Cassette Deck Dolby B. C. HX Pro. Features switchable MPX

DCC130 Portable DCC Player

filter. Headphone jack with volume control. Full-logic controls; adjustable bias; synchro record with compatible CD players; electron counter; fluorescent display \$420

FC-930 Double Cassette Deck Dolby B, C, HX Pro. Headphone jack. Full-logic controls: autoreverse for both transports; synchro record with compatible CD players; electronic counter; fluorescent display

PIONEER

Auto BLE and Super Auto BLE refer to Pioneer's computer-controlled auto bias, level, and EO optimization circuitry.

Elite CT-43 3-Head Cassette Deck Dolby S. B. C. HX Pro. Features Super Auto

BLE; centered tray orientation; 3 motors; dual capstans; digital tension control; cassette stabilizer; isolated door; MPX filter. Headphone jack with volume control. Synchro record with compatible CD players; 15-track program search; nowered eject: user-adjustable bias: timer record/play; defeatable fluorescent display with ounter; remaining-time indication. FR 15-21,000 Hz; W&F 0.023%. 171/4 x 51/4 x 141/4 in;

CT-WM62R 7-Cassette Changer Dolby B. C. HX Pro for 6-cassette changer: 6-

cassette record/play changer plus play-only sin-gle-cassette transport. Features FLEX proprietary high-frequency restoration circuitry. Autoreverse for all transports; memory for user settings; powered load/eject; MPX filter; individual NR selection for each cassette; 6-cassette sequential record/play, simultaneous rewind, and random play; cassette scan; 15-track skip search; blank skip; auto space; normal/high speed dubbing; synchro record with compatible CD players; auto tape-bias selector; timer sequential play/record; remaining-time indicator; digital 4-digit tape/time fluorescent counter; fluorescent peak-hold level meter; SR-system remote-control compatibility; remote control. FR 20-18,000 Hz high bias; S/N 58 dB no NR; W&F 0.09% wrms. 161/4 x 51/4 x 141/4 in.....\$490

Elite CT-W53 Double Cassette Deck

Dolby B, C, HX Pro. Features Super Auto BLE; MPX filter. Headphone iack with volume control. Record/play for both transports; autoreverse; 2-cassette simultaneous record; synchro record with compatible CD players; 15-track program search; fade out; counter; timer record/play, FR 20-19,000 Hz high bias; W&F 0.07% wrms. 16% x 5% x 14%; 13 lb...

CT-W802R Double Cassette Deck

Dolby B, C, HX Pro for both transports. Features Super Auto BLE for both transports; MPX filter. Headphone jack. Autoreverse record/play for both transports; EQ-enhancement preset for portable/car applications; 15-track skip search; auto space; blank skip; 2-cassette sequential record/play and simultaneous recording; synchro record with compatible CD players; normal/ high-speed dubbing; timer; auto tape-bias selector; two 4-digit digital tape/time counters; fluorescent peak-hold level meters; SR-system re-mote-control compatibility. FR 25-19,000 Hz high bias; S/N 57 dB no NR; W&F 0.09% ns. 16% x 5% x 9% in \$400 CT-W602R, As above, without Super Auto BLE or EQ-enhancement preset. Features Auto BLE; FLEX proprietary high-frequency restora-tion circuitry. 16% x 5 x 9% in......\$330

CT-W502R Double Cassette Deck

Dolby B, C, HX Pro. FLEX proprietary highfrequency restoration circuitry; OFC head wire and leads. Headphone jack. One transport autoreverse record/play, one autoreverse play only: MPX filter: 15-track skin search: blank skip: auto space; synchro record with compatible CD players; normal/high-speed dubbing; 2-cassette sequential play; auto tape-bias selector; timer; two 4-digit digital tape/time counters; fluorescent peak-hold level meters; SR-system remote control compatibility. 16% x 4% x 9% in....\$265 CT-W402R. As above, autoreverse for record/ play transport only. No FLEX or headphone iack. Features repeat play. CT-W302R, As CT-W402R, without fluorescent peak-hold display, synchro CD record, or dual counters. LED peak-level meter; 3-digit mechanical counter, 16% x 4% x 10½ in\$225

ROTEL

RD965BX. Dolby B, C, HX Pro. Features manual bias fine-tune: music search: repeat: fluorescent peak-level meters. FR 30-18,000 Hz ±3 dB netal), 10½ lb.... RD955AX. As above without bias fine-tune

SANSUI D-X317WR Double Cassette Deck

Dolby B, C, HX Pro. Features switchable MPX filter. Gold-plated headphone jack; CD-direct input. Full-logic controls; one transport autoreverse record/play, other transport play-only; 16song program search; auto record mute; auto tape-bias selector; adjustable bias; blank skip; high-speed dubbing; 2-cassette sequential play; auto/manual record-level control; timer; fluorescent peak-level indicator; remote-control compatibility. 17 x 5 x 10% in; 11 lb\$349

D-X117WR Cassette Deck Dolby B, C, HX Pro. Features switchable MPX filter. Autoreverse; program search; auto record mute; peak-level indicator; synchro high-speed dubbing. W&F 0.09% wrms. 17 x 5 x 10% in; \$270

D-790WR Double Cassette Deck Dolby B. Full-logic controls; autoreverse re-

cord/play for one transport; program search; auto tape-bias selector, high-speed dubbing; auto record mute: repeat: timer; LED peak-lev meters. 17 x 5% x 9% in; 9 lb D-590W. As above, no program search or fulllogic controls. .

MD-M11 Portable MD Recorder

Features analog input, mic input (microphor optional), optical digital input/output (cables optional), headphone jack; multiple editing functions; rechargeable battery (can recharge during use); antishock memory buffer; scrolling display; bass boost; random play; skip/scan. In cludes headphones. Sampling rate 44.1 kHz; FR 20-20,000 Hz ±3 dB. 3% e x 1% e x 4% in; 10.6 oz with battery....



SHERWOOD

Dolby B, C, HX Pro for both transports. Headphone jack. Autoreverse record/play for both transports; full-logic controls; program search; electronic real-time tape counter; high-speed dubbing: synchro record with compatible CD players; record mute; blank skip; 2-cassette sequential record/play; 2-cassette simultaneous record; auto tape-bias selector; record level and balance controls; Sherwood Digi-Link III sys tem remote-control compatibility, 15 lb \$325

DD-4030C Double Cassette Deck

DD-6030C Double Cassette Deck

Dolby B, C, HX Pro for one transport. Headphone jack. Full-logic controls; one transport autoreverse record/play, other autoreverse playonly; 20-track program search; auto tape-bias selector; electronic real-time counter; highspeed dubbing; 2-cassette sequential play; synchro record with compatible CD players; record mute; Sherwood Digi-Link III system remote compatibility. 15 lb.

DD-3010C Double Cassette Deck Dolby B, C, HX Pro. Headphone jack. One

transport autoreverse record/play; full-logic controls; program search; blank skip; 2-cassette sequential play; timer; auto tape-bias selector; Sherwood Digi-Link II system remote-control compatibility. FR 35-16,000 Hz ±3 dB high bias; S/N 64 dB Dolby B, 73 dB Dolby W&F 0.07% ...

DD-2010C Double Cassette Deck Dolby B, C. Headphone jack. 2-cassette sequen-

tial play; high-speed dubbing; auto tape-bias se-lector; record-level meter. FR 35-15,500 Hz ±3 dB high bins; S/N 63 dB Dolby B, 72 dB Dolby W&F 0.08%. 171/4 x 5 x 91/6 in: 9 lb......\$140 DD-1010C. As above, without Dolby C\$120

MDS-101 MD Recorder

Features gallium-aluminum-arsenic double-hetrodiode laser. Line-level inputs and outputs: fiber-optic digital input and output: headphone jack. Auto scan for blank space; ability to create up to 255 cueing points; ability to combine two or more tracks into one; track/disc erase; track reordering; ability to store 1,700 characters of information per disc; random play; repeat; re-mote control. Includes blank disc and interconnect cable. Sampling rate 44,100 Hz. 9 x 3 x 111/2 in: 61/2 lb. ...\$1,000

MDS-501 MD Recorder

Pulse-type A/D converter, hybrid pulse D/A converter. Features 45-bit digital filter. Fiberoptic and analog inputs and outputs. 100-character alphanumeric track and disc titling; date function; track, disc, and title erase modes; edit functions including divide, combine, and move: auto space; record-level control; 25-track programming; random play; 3 repeat modes; track scan: remote control ...

DTC-690 DAT Recorder

Pulse-type A/D and D/A converters. Coaxial and fiber-optic digital inputs; analog inputs and outputs; fiber-optic digital output. Features 3motor direct-drive transport. Headphone jack. Standard and long play modes; subcode start, stop, and skip management; direct track access: absolute/remaining-time displays; remote control. FR 2-22,000 Hz ±0.5 dB standard play, 2-14,500 Hz ±0.5 dB long play; S/N 90 dB; dy-namic range 90 dB; THD (at 1,000 Hz) 0.005% standard play. 17 x 33/4 x 14 in ...

TC-K615S 3-Head Cassette Deck

Dolby S, B, C, HX Pro. Features 2-motor transport; Permalloy heads; powered loading; ceram-ic stabilizer. Headphone jack with volume control. Record calibration with test-tone generator; program search; record mute; level and balance controls: linear tape counter; fluorescent display. FR 20-20,000 Hz ±3 dB; S/N 60 dB no NR, metal; W&F 0.05% wrms. 17 x 41/4 x 121/4 .\$400

TC-WR645S Double Cassette Deck Dolby S, B, C, HX Pro. Features Permallov

head; switchable MPX filter; dual 2-motor transports. Autoreverse for both transports; auto record calibration; 2-cassette sequential play; program search; auto play; normal/high-speed dubbing; balance control; record mute; 2 electronic counters; 14-segment fluorescent displaremote-control compatibility...

TC-WR545 Double Cassette Deck Dolby B, C, HX Pro. Features Permalloy head;

switchable MPX filter; dual 2-motor transports. Autoreverse for both transports; auto record calibration; 2-cassette sequential play; program search; auto play; normal/high-speed dubbing; balance control; record mute; 2 electronic counters; 14-segment fluorescent display; remotecontrol compatibility \$250

The following feature a switchable MPX filter, program search, record mute, record level and balance controls, and Sony receiver remotecontrol compatibility.

DTC-2000ES DAT Recorder Features 16-output 90-MHz D/A converter in

complementary configuration; 4 heads; 4 direct drive motors; Super Bit Mapping; 44,100 Hz recording sampling rate for analog input. 2 fiber-optic inputs; coaxial digital input; mic in-\$2,000 put. Champagne finish.

TC-K909ES 3-Head Cassette Deck

Dolby S, B, C, switchable HX Pro. Features 3motor dual-capstan transport; sapphire directdrive capstan motor; laser-amorphous heads; powered loading. Gold-plated connectors; headphone jack with volume control. Bias calibration with test tone; adjustable bias; linear counter; fluorescent display. Wood side panels. 18½ x 13¼ x 5¼ in.... TC-K707ES. As above, without sapphire direct-drive capstan motor, HX Pro switch, or wood side panels. Features sapphire bearing. 18½ x 13½ x 5¼ in

TC-WR901ES Double Cassette Deck Dolby S, B, C, HX Pro. Features powered cas-

sette loading: 3-motor transports: laser amorphous heads; aluminum front panel. Autoreverse record/play and auto record calibration for both transports; pitch control; blank skip; two fluorescent counters. Wood side panels. 181/2 x 13½ x 5½ in ...

TC-RX606ES Cassette Deck

Dolby S, B, C, HX Pro. Features 3-motor transport; laser amorphous heads; powered cassette loading. Gold-plated connectors; headphone jack with volume control. Autoreverse; record EQ calibration; auto/manual record-bias calibration; program search; linear tape count fluorescent display. 17 x 121/4 x 47/4 in\$400



Teac W-700R

TEAC

V-8000S 3-Head Cassette Deck Dolby S, B, C, HX Pro. Features quartz-locked dual-capstan drive; centered cassette well; antistatic cassette stabilizer, Gold-plated line-level inputs and outputs; CD-direct input; headphone jack with volume control. Independent L/R bias and level controls: ±25% bias range; synchro record with compatible CD players; test oscillator; record mute; auto space; auto tape-bias selector; timer; remote control. FR 15-20.000 Hz ±3 dB high bias; S/N 70 dB Dolby B, 80 dB Dolby C, 84 dB Dolby S; W&F 0.022%. 181/x x 51/4 x 14 in; 24 lb .. \$1,300

V-7010 3-Head Cassette Deck

Dolby B, C, HX Pro. Features copper-plated steel chassis; cobalt-amorphous head with PC-OCC wiring; die-cast zinc-alloy head block; centered cassette well; quartz-locked dual-capstan drive. CD-direct input; gold-plated line-level inputs and outputs; headphone jack with volume control. Powered load/eject; synchro record with compatible CD players; program search; L/R peak meters with peak hold; record mute; auto space; independent L/R bias and level controls; test oscillator; master record-level control: auto tape-bias selector: timer: reme control. FR 15-20,000 Hz ±3 dB high bias; S/N 70 dB Dolby B, 80 dB Dolby C; W&F 0.022%

V-5010 3-Head Cassette Deck

Dolby B. C. HX Pro. Features copper-plated steel chassis; cobalt-amorphous head with PC-OCC wiring; die-cast zinc-alloy head block; centered cassette well; closed-loop dual-capstan drive; antistatic cassette stabilizer. CD-direct input; gold-plated line-level inputs and outputs; headnhone iack with volume control. Powered load/eject; synchro record with compatible CD players; program search; L/R peak meters; switchable MPX filter; record mute; auto space; independent L/R bias and level controls; master rec-level control: auto tane-bias selector: timer: remote control. FR 15-20,000 Hz ±3 dB high bias: S/N 70 dB Dolby B, 80 dB Dolby C: W&F 0.027% wrms. 17½ x 5½ x 14 in......5790

V-2020S 3-Head Cassette Deck

Dolby S, B, C, HX Pro. Features aluminum front panel; centered cassette well. Bias and level calibration system with test-tone oscillator; fluorescent display; remote control......\$650

V-1010 3-Head Cassette Deck Dolby B, C, HX Pro. Permalloy heads with PC-

OCC wiring; die-cast zinc-alloy head block; centered cassette well; switchable MPX filter. Line-level inputs and outputs; CD-direct input; headphone jack with volume control. L/R peak meters; electronic counter; record mute; auto space: adjustable bias: master and L/R recordlevel controls; auto tape-bias selector; timer. FR 15-20,000 Hz ±3 dB high bias; S/N 70 dB Dol-

Double Cassette Decks

W-6000R Double Cassette Deck Dolby B. C. HX Pro for both transports. Fea-

tures Permalloy record/play rotating-head autoreverse for both transports. Headphone iack. IClogic controls: auto record-level adjust: 2cassette sequential play; auto fader; repeat; nor-mal/high-speed dubbing; blank skip for one transport; adjustable bias for one transport; intro scan; L/R peak meters; 2-cassette simultan record: synchro record with compatible CD players; record mute; auto space; timer; remote control. FR 25-19,000 Hz ±20 dB high bias; S/N 69 dB Dolby B, 79 dB Dolby C; W&F 0.06% wrms. 17½ x 5 x 12 in; 14 lb........\$750

W-800R Double Cassette Deck Dolby B, C, HX Pro for both transports. Fea-

tures autoreverse record/play for both transports; program search. Two electronic counters; uorescent display; remote control ...

W-700R Double Cassette Deck

Dolby B. C. HX Pro for both transports. Features Permalloy record/play head; rotating-head autoreverse, Headphone jack, IC-logic controls; one transport autoreverse record/play, other autoreverse play-only; 2-cassette sequential play; repeat; record mute; auto space; timer; L/R peak meters; auto tape-bias selector for both transports; adjustable bias for one transport; two electronic counters; fluorescent display; remote control, FR 25-19,000 Hz -20 dB high bias; S/N 69 dB Dolby B, 79 dB Dolby C; W&F 0.06% wrms. 171/k x 5 x 11 in \$280

TECHNICS

RS-DC10 DCC Recorder Features servo-controlled 2-motor transport; optical sensor for end-of-tape and auto DCC/ana log-tape detections; centered cassette well. Gold-plated RCA connectors. Analog-casset playback with Dolby B and C NR; user DCC subcoding: 12-character album title, artist name and track title display of prerecorded DCCs; timer; autoreverse; level meters with peak hold; track-number, time/counter, and transport-mode displays; remote control ...

RS-TR979 Double Cassette Deck

Dolby B, C, HX Pro. Full-logic controls: autoreverse record/play for both transports; auto tape calibration; 2 linear electronic counters; 2cassette simultaneous record and sequential record/play: synchro record with compatible CD players; high-speed dubbing; adjustable bias; program search; fluorescent peak-hold meters; remote-control compatibility with select Technics receivers. FR 40-15,000 Hz ±3 dB high bias: S/N 66 dB Dolby B, 74 dB Dolby C W&F 0.1%. 17 x 5¼ x 11 in; 12 lb...

RS-TR777 Double Cassette Deck Dolby B, C, HX Pro. Full-logic controls; one

transport autoreverse record/play, one play only; auto tape calibration; dual linear electronic counters; 2-cassette sequential play; synchro record with compatible CD players; adjustable bias; program search; fluorescent peak-hold meters; remote-control compatibility with select Technics receivers. FR 40-15,000 Hz ±3 dB high bias; S/N 66 dB Dolby B, 74 dB Dolby C; W&F 0.1%, 17 x 51/4 x 11 in; 11 lb

RS-BX606 3-Head Cassette Deck Dolby B, C, HX Pro. Features digital-servo d

rect-drive transport; Class AA record amp; PC-OCC coils: switchable MPX filter. Headphone jack with volume control. Full-logic controls; program search; adjustable bias; auto tape-bias selector; repeat; auto record mute; timer; peak-hold meters. FR 30-18,000 Hz ±3 dB high bias; S/N (high bias) 57 dBA no NR, 66 dB Dolby B. 74 dB Dolby C: W&F 0.05%, 17 x 5 x 11% in: 10 lb

RS-TR535 Double Cassette Deck Dolby B, C, HX Pro. Autoreverse record/play for both transports: 2-cassette simultaneous re-

cord and sequential record/play; synchro record with compatible CD players; high-speed dubbing; adjustable bias; program search; dual fluorescent electronic counters; fluorescent peakhold meters: remote-control compatibility with select Technics receivers, FR 40-15,000 Hz ±3 dB high bias; S/N 66 dB Dolby B, 74 dB Dolby C: W&F 0.1%, 17 x 5\% x 11 in: 10.6 lb\$270

RS-BR465 Cassette Deck Dolby B. C. HX Pro. Features 2 DC motors:

switchable MPX filter. Headphone jack. Fulllogic controls; autoreverse record/play; adjustable bias; record level and balance controls; auto tape-bias selector; auto record mute; timer; peak-hold meters; remote-control compat with select Technics receivers. FR 30-16,000 Hz ±3 dB high bias; S/N (high bias) 56 dBA no NR, 66 dB Dolby B, 74 dB Dolby C; W&F 0.07%. 17 x 51/4 x 111/2 in: 10 lb.

RS-TR333 Double Cassette Deck Dolby B, C, HX Pro. Full-logic controls; one

transport autoreverse record/play, other autoreverse play-only; 2-cassette sequential play; high-speed dubbing; program search; synchro record with compatible CD players; record level and balance controls; adjustable bias; auto tapebias selector; auto record mute; peak-level meters; remote-control capability with select Technics receivers. FR 40-15,000 Hz ±3 dB high bias: S/N 66 dB Dolby B, 74 dB Dolby C W&F 0.1%. 17 x 51/s x 111/2 in; 10 lb.......\$220

VECTOR RESEARCH VCX-270 Cassette Deck

Dolby B, C, HX Pro. Features 2-motor design; switchable MPX filter. Headphone jack with volume control. Full-logic controls; high-frequency trim and bias controls. FR 30-17,000 Hz; S/N 75 dB Dolby C, 67 dB Dolby B; W&F 0.05% wrms. 16% x 4% x 11% in: 13 lb.....\$280

VCX-255 Cassette Deck Dolby B, C. Record-balance control; metal-bias

compatibility; adjustable bias. FR 30-17,000 Hz ±3 dB high bias; S/N 67 dB Dolby B, 75 dB Dolby C; W&F 0.05% wrms. 17 x 41/2 x 111/4 in: 12 lb... \$180



Yamaha KX-670

AHAMAY

KX-W952 Double Cassette Deck Dolby B, C, HX Pro for both transports. Features 12-layer amorphous record/play heads; sorbothane-stabilized cassette doors. Headphone jack with volume control. 2-cassette sequential play/record and simultaneous record of independent sources; autoreverse record/play for both transports; auto tape-bias selector; play trim; high-speed dubbing; cross-Dolby, randomprogram, and skip dubbing: 15-selection random program play for each transport; intro scan; auto record mute; blank skip; separate controls, meters, and displays for each transport; level meters with peak-hold. 171/4 x 51/4 x 141/4 in: 18 lb ... \$729

KX-670 3-Head Cassette Deck

Dolby B, C, HX Pro. Features 3 motors; closedloop dual-capstan design; sorbothane cassette stabilizer: antivibration feet: switchable MPX filter; hard Permalloy record and play heads. Headphone jack with volume control. Auto adjustment of record bias, sens, and EO; play trim; adjustable bias; L/R peak-level meters with peak hold: optimum-record-level indicator; 4-digit linear time counter with remaining-time display; repeat; bidirectional intro scan; timer capability; program search; auto record mute; auto tape-bias selector; record level and balance controls, 171/4 x 51/4 x 111/4 in; 11 lb ...

KX-W362 Double Cassette Deck

Dolby B, C, HX Pro. Features 12-layer amo phous head; 2 motors; sorbothane cassette stabilizer, Full-logic controls; autoreverse; one transport record/play, other play-only; program search; repeat play; 2-cassette sequential play; play trim; auto tape-bias selector; record level and balance controls: record-level indicator: high-speed dubbing; auto record mute; peak-level meters. FR 20-20.000 Hz ±3 dB metal. 171/4 x 51/4 x 111/4 in; 11.6 lb

KX-580 Cassette Deck

Dolby S, B, C, HX Pro. Features separate mechanical and signal power supplies; hard-Permalloy heads; 2-motor transport; cassette stabilizer; switchable MPX filter. Auto tape tuning; play trim; bidirectional intro scan; repeat; adjustable bias; program search; auto tape-bias selector; synchro record with compatible CD players; timer record/play; 15-segment fluores cent level meters with peak hold; 4-digit fluorescent display; Yamaha IS-system remote-control compatibility. Remote control optional. FR 20-20,000 Hz ±3 dB metal; S/N 68 dB Dolby B, 76 dB Dolby C, 80 dB Dolby S; W&F 0.05% wrms, 17½ x 5 x 10½ in: 10 lb.....

KX-R470 Cassette Deck

Dolby B, C, HX Pro. Double-gap ferrite erase head; DC-servo capstan; DC reel motors; 12layer amorphous record/play head; sorbothane cassette stabilizer; switchable MPX filter; antivibration feet. Infrared input jacks: headphone iack with volume control. Microcomputer-con trolled full-logic operation; autoreverse; bidirectional intro scan; blank skip; adjustable bias; play trim; optimum record-level indicator; pro gram search; repeat; record mute; auto tape-bias selector; timer; L/R LCD peak-level meters with peak hold; 4-digit LCD counter. FR 20-20,000 Hz metal, 171/4 x 51/4 x 111/4 in......

KX-W262 Double Cassette Deck

Dolby B, C. Features 2-motor transports. Head-phone jack. Full-logic controls; one transport autoreverse record/play, one autoreverse play only; high-speed dubbing; record level and balance controls; auto record mute; repeat; 2-cassette sequential play; auto bias selector; peak-level meters. FR 20-20,000 Hz ±3 dB metal; W&F 0.08%. 171/4 x 51/4 x 107/6 in; 11 lb\$299

KX-380 Cassette Deck

Dolby B. C. HX Pro. Features 2 hard-Permalloy heads; switchable MPX filter. Headphone jack with volume control. Auto tape tuning; intro scan; adjustable bias; program search; play trim; auto tape-bias selector; synchro record with compatible CD players; 15-segment peaklevel meter; 4-digit fluorescent display; Yamaha IS-system remote-control compatibility. Remote control optional, FR 20-19,000 Hz ±3 dB metal: S/N 66 dB Dolby B, 74 dB Dolby C; W&F 0.08% wrms, 171/4 x 5 x 111/4 in; 10 lb \$249

BLANK MEDIA

BASF	
DCC Maxima Digital Compact Cassette	25
Co-developed with Philips.	-
D-90, 90 min	.\$12.99
D-75. 75 min	\$10.99
Chrome Maxima II High-Bias Cassette	s
Double-coated chromium dioxide.	
C100, 100 min	\$3.99
C90, 90 min	\$3,49
C60, 60 min	\$3.25
Chrome Super II High-Bias Cassettes	
Double-coated chrome formulation.	
C100, 100 min	\$3.33
C90. 90 min	\$2.99
Chrome Extra II High-Bias Cassettes	
C100, 100 min	\$2.79
C90, 90 min	\$2.29
C60, 60 min	\$1.89
Ferro Extra I Normal-Bias Cassettes	
C100, 100 min	\$1.89
C90, 90 min	
C60, 60 min	\$1.45

DENON
All of the following except DXI cassettes a
ture antiresonance shells.
THE CONTROL OF THE CO
MG-X100 Metal Cassette
High-temperature-resistant shell. 100 min\$8
ringar temperature resonant sixtin 100 minimize
Digital Audio Tapes
K-90DS, 90 meters. Data storage\$18
K-60DS, 60 meters. Data storage\$14
R-120DT, 120 min
R-90DT. 90 min
R-60DT, 60 min SS
R-20DM, 20 min. Demo Master S7
R-20DM, 20 min. Demo Master
HDM Metal Cassettes
HDM-100, 100 min
HDM-90. 90 min
HDM-74, 74 min S4
HDM-74, 74 min
HD8 High-Bias Cassettes
Features formulation combining pure-me
particles and cobalt-doped ferric oxide.
particles and coball-aopea ferric oxide.

HD8-90. 90 min ...

HD8-74, 74 min .

HD8-60. 60 min	.\$3.75
HD7 High-Bias Cassettes	
HD7-100, 100 min	.\$4,25
HD7-90. 90 min	S4
HD7-74, 74 min	\$3.50
HD6 High-Bias Cassettes	
HD6-100, 100 min	.\$3.50
HD6-90, 90 min	\$3.25
HD6-74, 74 min	.\$2.75
S-Port Cassettes	
Features thin case with rounded edges.	
S-Port Metal	\$3.49
S-Port High	.\$2.49
DX1 Normal-Bias Cassettes	
DX1-90, 90 min.	\$2.25
DX1-60, 60 min	\$1.75

DIC DIGITAL Write-Once Recordable CD's CDR-74 CDR-63 230

MQ Master Quality Digital Audi	o Tapes	Pro Digital Audio Tapes		MRX I Normal-Bias Cassettes	
D-122-MQ D-92-MQ	\$10.68			Features clear shell; lifetime warri 90 min	anty.
D-92-MQ	\$9.32	Pro-DAT 140. 140 min	\$13.80	90 min	\$1.89
D-62-MO	\$7.84	Pro-DAT 120, 120 min	\$11.50	60 min	\$1.59
D-48-MQ		Pro-DAT 90. 90 min	\$10.25		
D-30-MQ		Pro-DAT 75. 75 min	\$9.50		
D-15-MQ	S4.98	Pro-DAT 60. 60 min	\$8.75	RADIO SHACK	
		Pro-DAT 45. 45 min	\$7.25	Digital Compact Cassette	
HQ High Quality Digital Audio	Tapes	Pro-DAT 30, 60 min Pro-DAT 20, 20 min	S6.50	SD-90. 90 min	\$9.99
D-120-HQ D-90-HQ	58.13	Pro-DAT 20, 20 min	\$6.00		
D-90-HQ	57.69			The following analog cassettes j	eature head
				cleaning leader tapes.	
D-30-HQ	S6.25	MAXELL			
D-10-HQ	\$4.62	Digital Audio Tapes R-120DM. 120 min		Supertape High-Bias Cassettes	
		R-120DM, 120 min	\$14.99	HD-90. 90 min. 5 pk	\$12.99
				HD-90. 90 min. 3 pk	57.99
FUJI		R-60DM. 60 min	\$10.99	HD-60. 60 min. 3 pk	56.49
Analog cassettes feature a thin sh	ell.	R-46DM, 46 min		MII-100. 100 min	\$4.99
				MII-90. 90 min	\$4.79
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BEST OF MONTH THE OUTSTANDING

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CUIDDENT DELEASES

Kate Rush Stretches Out



ew artists have so successfully bent musical trends and technology toward them as has Kate Bush. A pioneer in the use of the Fairlight synthesizer, she artfully explored the potential of sampling as far back as 1982's "The Dreaming." Perhaps buoyed by the Utah Saints' prominent sample of a line from an old song of hers (Cloudbursting) in their recent U.K. rave hit Something Good, in her new album, "The Red Shoes," she breathlessly dives into dance-club beats, Celtic instrumentation, bluesy guitar-vocal dialogues, grunge guitar, Bulgarian chorales, sunny worldmusic tangents, art song, Princely funk, and incantatory trance music.

The album immediately goes for maximum liftoff with Rubberband Girl. which captures Bush at her most rhythmically blunt and artfully infectious. Over a solid, rave-worthy drum beat underpinned by synthesizer swashes and marimba, she playfully elongates her vocals in a wish for emotional resilience ("If I could twang like a rubberband / I'd be a rubberband girl"). Vocally, she's got more stretch in her than a slingshot, reaching for the top of her range with no loss of power on such numbers as the delirious title track and Top of the City, a plea to climb above and beyond the filth

of city streets. A handful of special guests contribute to several tracks. Eric Clapton plays with exquisite feeling in And So Is Love, and the Trio Bulgarka and Prince join Bush for an ecstatic outpouring in Why Should I Love You? Bush herself rises to a crescendo of pure, uncensored feeling when she blurts out, "Just being alive / It can really hurt" in Moments of Pleasure and "I don't know if you love me or not" in Top of the City. In Lily she assumes the voice of an elderly sage, snapping, "Child, take what I say with a pinch of

salt / And protect yourself with fire. Musically inventive, emotionally audacious, and entrancing in an all-too-rare way, "The Red Shoes" will set your feet dancing and your head spinning. Parke Puterbaugh

KATE BUSH The Red Shoes

COLUMBIA 53737 (55 min)

Rubberband Girl: And So Is Love: Eat the Music: Moments of Pleasure: The Sone of Solomon: Lilv: The Red Shoes; Top of the City. Constellation of the Heart; Big Stripey Lie; Why Should I Love You?: You're the One

Stern and Bronfman: Equal Partners in Brahms

Arthur Rubinstein's recording of the Brahms Violin Sonatas on a pair of RCA LP's pretty much set the standard for all future recorded versions. Now violinist Isaac Stern and pianist Yefim Bronfman have matched their predecessors point for point musically, and their Sony CD has the benefit of superb sonics. The live

ack in 1962. Henryk Szeryng and

BEST OF MONTH



Isaac Stern and Yefim Bronfman

recording is taken from concerts at St. Petersburg's Great Hall of the Bolshoi Philharmonia. There is applause after each of the three sonatas, but it remains warmly police until the close of the stunning performance of the big Third Scores, in D. Minor Co. 108

Sonata, in D Minor, Op. 108, Brahms designated these sonatas "for piano and violin" by way of pointing out that the pianist was an equal partner, not the mere accompanist he had become since Mozart's day (when it was the violinist who played more of an accompanying role in sonatas with keyboard). With the intimate, heartfelt lyricism of the first two sonatas, in G Major and A Major, Stern and Bronfman are so hand-in-glove from first to last that they seem to be a single, flawlessly integrated performer. But in the uninhibitedly concertante-style opening measures of the D Minor, Bronfman bursts forth like an uncaged lion. Even so, he never overpowers his partner, thirty-eight years his senior, for Stern gives every bit as good as he gets. The impassioned gravity of the adagio movement and the shadowy aspects of the little presto following it are also wonderfully realized. The CD includes a topnotch encore. Brahms's early and turbulent Scherzo in C Minor, from the "F.A.E." Sonata he composed jointly with Schumann and Albert Dietrich. Great performances of great chamber

music, beautifully recorded, make this an outstanding release. David Hall

BRAHMS:

Sonatus for Piano and Violin; Scherzo in C Minor Stem; Bronfman SONY 53107 (72 min)

Kevin Montgomery's American Music

I ever there was a young singer-songwriter with star potential, it is Kevin Montgomery. Nashville born, but New York and California cured, this tweny-five-year-eld writes and sings with that term might sound like a cop-out, in this case it's true. His songs—extremely well-crafted, thoughtful, and heartfelt resonate with decades of great American songwirters. From Buddy Holly (in whose band Kevin's father, country prebable of the property of the country pretains the property of the country pretains the country pr

On "Fear Nothing," Montgomery's debut album, the amalgam of sound isn't really country, although Nashville would certainly like to claim it. It's more like acoustic rock dressed up with stinging electric guitar and delivered with a Southern accent. Montgomery's ardent tenor suggests Dylan by way of John Lennon, but, under the direction of producer Ed Cherney (Bonnie Raitt, Eric Clapton, Bob Seger), he also employs the layered vocals of California country-rock to move his sweet, yet bruised melodies

forward into crescendos of emotion. Montgomery, who co-wrote all the material here, is an intensely passionate observer of human nature. On Red-Blooded American Boy, he imagines interrupting a circle of girls on the dance floor to find the one he might hold on to-for the moment, and for the dance of life-but he never follows through for fear they would mock such an unguarded display of emotion. Paranoia figures prominently in these songs, from the Chris Isaak-like I Want You, with its atmospheric guitar work, to I Won't Close My Eyes, where a pop melody and a strong chorus can't obscure the singer's darkening doubt about a lover on the lam. That fixation continues on Don't Make Me Hate the Things I Love, where Montgomery makes the mention of a special dress and the small of his lover's back an erotic, poetic passage, and a testament to a writing ability beyond his

years.

Montgomery occasionally steps out of strictly autobiographical mode, detailing the convoluted lives of two women in Everybody's Girl and Josie's Getting Stronger, one who has no love to give anyone, and another who gives it to the wrong man. Missed opportunities, we





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BEST OF MONTH

soon discover, are this young songwriter's stock-in-trade. Yet in his ability to make the personal the universal, his loss becomes our own, "Fear Nothing" seems to be saying we're all in this together-together, but alone. Montgomery knows that the person we always fool best is the one we look at in the mirror Alanna Nash every day.

KEVIH MONTGOMERY

Fear Nothing Red-Blooded American Boy; Everybody's Girl; Code of Honor; I Won't Close My Eyes; Which Way Is It Gonna Be; I Want You; Fear Nothing; Josie's Getting Stronger; Softer Years; Don't Make Me Hate the Things I Love A&M 31454 0141 (50 min)

Inhal Revisits Shostakovich

hile most of Shostakovich's fifteen symphonies have entered the concert repertory by now, his Second and Third have found few enthusiastsunderstandable, perhaps, since these single-movement works culminate in choral glorifications of, respectively, the October Revolution and May Day. But Eliahu Inbal's stunning new Denon recording of the Third with the Vienna Symphony Orchestra definitely calls for a reappraisal of this work. And the performance, like the one of the Ninth Symphony on the same disc, may also create higher expectations for the remainder of Inbal's Shostakovich cycle than did the

previous installments. Shostakovich composed his Third Symphony in a single month at the end of 1929, just after he reached the age of twenty-three. He had no commission, but was apparently motivated by a wish for official approval. Whatever the truth of that, he created, as Inbal suggests more powerfully than any conductor who has recorded this work before (yes, including Kondrashin and Rozhdestvensky), music whose substance and conviction are beyond the designs of any public "program" that may have been devised for it. Like the Fourth Symphony, which Shostakovich himself suppressed for a quarter-century, the more concise Third (a little longer than a half-hour in this performance) points ahead clearly to the intensely and urgently personal music of his later years in which he made himself a chronicler of his times. Fortunately, most Americans do not understand Russian (and the poor English translation of Semyon Kirsanov's text in the notes does not encourage attention to the words), so we can listen to the chorus at the end unfettered by thoughts of May Day, hearing it as an expansion of the orchestral coloring rather than as conveying any specific

In recent years we've been told what a dark and menacing work the Ninth Symphony is. Russian musicians who were actually close to the composer, however,



The conductor Flighy Inhal

assure us that it is as impertinent and nose-thumbing as it has always appeared to be, with bitterness transmuted into satire rather than heroic gestures. In any event, Inbal gives both wit and power their due, and his sense of momentum is altogether exceptional throughout the work. He has the orchestra at the top of its form in both symphonies, and Denon's rich, well-defined sonic frame puts everything in ideal aural perspective. However you may feel about this or any other Shostakovich cycle, neither of the symphonies on this disc has had more persuasive advocacy. Richard Freed

SHOSTAKOVICH: Symphony No. 3 ("May Day"); Symphony No. 9

Choruses: Vienna Symphony Orchestra, Inbal DENON 75444 (58 min)



POPULAR

· JOHN CALE: Paris 1919. REPRISE/WARNER ARCHIVES 25926. Surprisingly orchestral solo album by the co-founder of the Velvet Underground, with back-up by members of Little Feat "Absolutely sumptuous" (October, 1973).

· JIMI HENDRIX: Are You Experienced? MCA 10893.

Axis: Bold as Love. MCA 10894 Electric Ladyland. MCA 10895. Newly remastered versions of the three studio albums released (1967-1968) during the great guitarist's lifetime.

· LEON BUSSELL.

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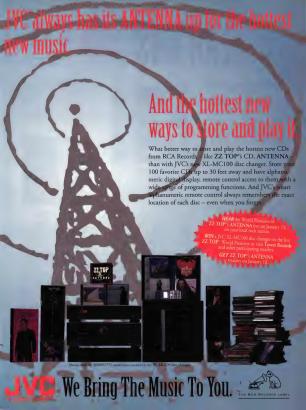
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· IVAN MORAVEC:

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- DAVID GISTBARM-Violin Sonatas by Beethoven Franck, Leclair, Prokofiev, and

Ysaye; other works. VANGUARD 4080/2 (three CD's). These Paris recordings from 1953 and 1954 include a "Kreutzer" Sonata with pianist Lev Oborin that has ". a rock-firm steadiness of phrasing, tone, and rhythm," (November 1966).



POPULAR MUSIC

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PARKE PUTERBAUGH, AND STEVE SIMELS

THE BEAVIS AND BUTT-HEAD EXPERIENCE GEFFEN 24613 (60 min)

rformance: Cool when it doesn't suck Recording: Sucks when it isn't cool

re you experienced? Have you ever been experienced? Well, I have, and that's why I know that there's more than one way to rate this audio translation of MTV's most dynamic duo since Dr. Dre and Ed Lover. So, in the interest of, like, total consumer service, here are the ways in which various people will experience "Experience."

Butt-head: Sucks. Beavis: Cool.

High-school student: Sucks! No, cool!

No, sucks! No, cool! . College student: The steady, rocking petulance of Nirvana and the staccato, metalloid psychological confusion of Megadeth are a perfect match for the desperate identity crises of the two young protagonists, who do not-repeat, do not-resemble me

at the same dorky age. Classic-rock fan: Why are those dudes in Aerosmith hanging with all those loser hands?

Cher: Oh, Beavis, you are the studliest young boy I've ever known. Your braces are truly heavy metal

Me: Forget the CD. Beavis and Butthead is about to start on MTV. Huh-huh. Huh-huh-huh. PC



THE BIS-QUITS OH BOY 012 (48 min) Performance: Solid Recording: Homegrown

omewhere between the Replacements Sand Tom Petty's Heartbreakers lies the perfect rock band, and in time it might just be the Bis-Quits. These prematurely jaded veterans from various signed and unsigned bands almost packed it in but decided to gig and giggle together instead of grousing alone, and hence the Bis-quits (as in almost



GRUNGE MEETS MERSEYBEAT

t first, the idea of alternative-rock types playing Beatles songs would seem about as likely as Louis Farrakhan singing Ebony and Ivory at a skinheads convention. And yet on the soundtrack to a new film entitled Backbeat (Virgin 39386) that's exactly what's going on. Producer Don Was apparently intuited that this true story of the Fab Four's pre-stardom days (and the love triangle between John Lennon, original Beatles bassist Stu Sutcliffe, and German artist Astrid Kircherr) would be bogus, with actors simply lip-synching pristine Beatlemsnla-style musical recreations. His solution? Enlisting members of Nirvana. Gumball, R.E.M., Sonic Youth, the Afghan Whigs, and Soul Asylum to impersonate the early Beatles at their scruffiest. The result is one of the great garage albums, as close to a 1963 Beatles bootleg in stereo as humanly possible. Special kudos to Sonic Youth's Thurston Moore, who plausibly reinvents George Harrison as a proto-noise rocker. SS

quit the biz, and pronounced "biscuits") were born. The first rock-band signees to John Prine's Oh Boy label, the Bis-Ouits play the music they feel like playing, biz be damned, on their debut album, which is rootsy in its uncluttered guitars-and-drums directness, careful not to be pristine, a tad smitten with its own cleverness but likable nonetheless. They get good guitar soundsas in the cranked-up instrumental 76 Bisquits, with its underwater effects and goofy momentum—and they click with some especially sharp songs here and there, like the musically inventive Cyberpop and the lyrically right-on Eighties kissoff Powers That Be. Overall, the Bis-Ouits are somewhat unfocused, straddling both alternative and mainstream camps but belonging to neither. There's no question they're onto something, though,



MICHAEL BOLTON The One Thing COLUMBIA 53567 (52 min) Performance: Strong but sensitive Recording: Sensitive but strong

ock critics everywhere love to pick on Michael Bolton because of his excesses, and Lord knows he's got a few. As a former hard-rocker, he knows exactly how to punch his musical buttons with superhuman force-and he almost never fails to do so, "The One Thing" proves that he hasn't lost his touch. So, if you hate Bolton's musical tics, or his overuse of them, you're going to hate his newest album. (Hey-corporate rock is nothing if not consistent.)

But if you don't reflexively retch every time you hear the Bolton Screech, then "The One Thing" will probably tantalize you with some of its zirconium gems. With I'm Not Made of Steel, Bolton takes time out from his meditations on love-both romantic and paternal-to show his vulnerability: "I can bend I can break I can feel / I'm not made of steel." There are musical epiphanies as well. Bolton isn't afraid to stop his parade of catchy-as-catchy-can soft-rock to let his hair down. The Meat Loafian grandiosity of Ain't Got Nothing If You Ain't Got Love allows him to rock out-note the sound of a cowbell (synthesized?), an obvious homage to Mountain's Mississippi Oueen.

The album reaches its apotheosis, however, with Completely. This torch ballad composed by Diane Warren, the most successful nonsinger/songwriter of the past docade, urges us to believe in the totality of the love under consideration. But the song's horus, sung with Bolton's finest Ray-Charles-in-heat intensity, could be describing his mascial philosophy as well: "Completely not in between / But everything / I if sincerity and feeling can redeem the clickés he's singing, reaching the truth buried deep within them.

No wonder critics—professional cynics—don't like Bolton. He's a musical true believer, without doubts even when he sings about doubt. You needn't, and shouldn't, hink about his music. You should listen with your heart, not your mind. Go on. Bend. Break. Feel. Michael Bolton isn't made of steel, and neither are you.



BUZZCOCKS
Trade Test Transmissions
CAROLINE 1747 (55 min)
Performance: N-n-nervous
Recordina: Okay

whe high-energy Buzzocks are back, making an exuberantly stressed-out racket on "Trade Test Transmissions." Lines like "Will be the last to know? (Last to Know). "In living in a world of solution" (Variation), and "Straight. (Smile) describe a solipistic paranoid mass the missic is witty, muscular, and aggressive, uggesting a boyont spirit. In the cive, uggesting a boyont spirit, he will then the missic steamrollers over all that's in its path, reducing everything to robbe—even

The Buzzcocks' melodious minimalist monotony is sustained over the course of the album's seventeen cuts-in Pete Shelley's Bowie-esque whine, the guitars' full-bore attack, the aggressive rhythm section. Mixing a pure-pop approach with the jagged discontent of punk, the Buzzcocks hark back not only to their own roots in British punk circa 1977 but also the furiously witty pop-punk energy of the early Who. It is no accident that Shelley sings, "Even though you're not my mum / I've got to get my washing done"-a lyrical allusion to the Who's definitive early single. Substitute. Carrying on with delicious, no-frills abandon on Trade Test Transmissions and sparking like a generator on fire in When Love Turns Around and Alive Tonight, this sucWHY, YOU'RE NOTHING BUT A PACK OF CARDS!!!



stion: What do Smiley Lewis, Qivory Joe Hunter, Big Mama Thornton, King Curtis, and Professor Longhair have in common? Answer: They all recorded seminal Fifties R&B hits, they're all dead, and (along with other artists still with us) they're all featured in the new "Blockbusters of Rhythm & Blues," a boxed set of thirty-six trading cards from comic-book publishers Eclipse Enterprises (\$9.95). Each card features a portrait of an R&B pioneer by illustrator David Chelsea, with pertinent biographical text on the back. Look for the set in comic-book stores (and hipper CD venues) everywhere.

cessful Buzzcocks reunion raises only one question: Can the Jam be far behind? P.P.

HATALIE COLE Take a Look ELEKTRA 61496 (65 min) Performance: Jazz-based Recording: Clean

The unmisstably juzzy nature of Natile Cole's latest abum should come as no surprise. Growing up in dad Nat King. Cole's home, where friends like Ills Fitz-grald and Mel Tornel frequently dropped to the cole of the cole of

On "Take a Look" Cole has drawn from sones that range back to Billie Holiday's Don't Explain and the Forties movie classic As Time Goes By. Other songs are closely associated with other singers, like Cry Me a River, which was Julie London's exclusive property during the Fifties, Wisely, Cole tries to find her own interpretation, favoring a cool detachment that some might find too emotionally limited. She is much more exciting-and convincing-when she leaves the ballads and turns to material that gives her a chance to show off her jazz chops, like Too Close for Comfort and Let There Be Love, where she interpolates snatches of Benny Golson's Killer Joe. Other unexpected delights include It's Sand Man, which was an aerobic exercise for Lambert. Hendricks, and Ross, and Calypso Blues, which Cole's father often sang in concert. All in all. Natalie Cole may be destined to remain a derivative singer rather than a truly origi-nal one, but "Take a Look" is appealing nonetheless



GUHS 'N ROSES The Spaghetti Incident? GEFFEN 24617 (45 min) erformance: Punk and disorderly Recording: Good

Give Guns 'n Roses this much: for a mainstream band, they never take the easy, expected path. Running through a briar patch of punk-rock covers, as they do here, is not the act of a group trying desperately to hang onto its market share. And covering a tune by Charles Manson at the end of such an album is outright lunacypunk with its middle finger raised somewhat menacingly. That said, there's more arena rock than punkish rejection of same in the Gunners' new album, despite their sometimes degenerate and trouble-making ways. It's hard, if not impossible, to put across the underclass rage of punk when you're sitting on top of a pile of money, more than a decade removed from the original movement. Also, Matt Sorum drums like a pro, not a punk, and even Axl Rose has some problems with the material. Delivering the U.K. Subs' Down on the Farm in a fake British accent only underscores how incompletely he connects with the song; he might as well be repeating lines

from a foreign-language tutorial. Rose does make contact with the Dead Boys' Ain't It Fun, whose weary fatalism suits his temper. But the band's take on the New York Dolls' Human Being is tedious, and their choice of a Sex Pistols' tune (the post-Johnny-Rotten Black Leather) is remarkable only for its obscurity. The real hero of "The Spaghetti Incident?" is bassist Duff McKagan, who's on sufficiently familiar terms with the genre to pull off an affecting tribute to Johnny Thunders (a righteously ragged You Can't Put Your Arms Around a Memory) and steer the band through the Damned's proto-punk speedball New Rose. That's as good as it gets on this album, which, overall, falls short of its



DAUL MCCAPTNEY Paul Is Live CAPITOL 7243 8 27704 (77 min)

Performance: Value for money Recording: Adequate ere are the Top Ten reasons to buy "Paul Is Live," even though it follows on the heels of a concert album from his previous tour ("Tripping the Live Fantas-

tic") issued in 1990: 10. Sounds better than a bootleg.

9. You don't have to watch Paul and Linda's heavy-handed animal-rights film. which opened the shows, on a CD. 8. Packs twenty-four tracks on a single

disc (well, twenty-three, if you discount the 45 seconds of cricket noise entitled Welcome to Soundcheck).

7. Linda's nowhere to be heard. 6. Paul performs Kansas City in Kansas

City 5. His repertoire holds up better than Ringo's.

4. Early Beatles stuff is wonderful, espe-98 STEREO REVIEW MARCH 1994

TRACK RECORD

Frank

Zappa By our count, the late Frank Zappa released fifty-eight albums (not Including bootlegs and



two- and even three-record sets. Here are the or say no home should be without.

Absolutely Free (1967)

RYKODISC 10093 Zappa's scruffy Mothers of Invention uncovered the slime beneath the whitewashed exterior of suburban middle-class America. Deadly social satire, scarifying music.

We're Only in It for the Money (1968) RYKODISC 40024 The cover is a wicked "Sgt. Pepper" parody; the album skewers the peace-

Uncle Meat (1969) RYKODISC 10064/65 Zappa's most musically satisfying excursion, involving everything from

and-love crowd.

jazzy suites to Electric Aunt Jemima. Tinseltown Rebellion (1981) RYKODISC 40166 The best of post-Mothers Zappa, full of

invention, wit, and vitality. The Best Band You Never Heard in Your Life (1991)

BARKING PUMPKIN 74233 The title is an accurate review of this tour document of Zappa's last guitar fling.

You Can't Do That Onstage Anymore, Vol. 5 (1992) RYKODISC 10089/90 One CD of priceless, unreleased early Mothers, another of concert recordings by Zappa's stellar 1982 band.

cially Drive My Car. We Can Work It Out. All My Loving, Paperback Writer, and I Wanna Be Your Man

3. Includes only four songs from his last album, two of them (Peace in the Neighborhood, Hope of Deliverance) actually worth hearing.

2. It's a real live album, complete with bum notes and foibles that make it all the more human.

1. Album cover is a brilliant spoof on the "Abbey Road" jacket and Paul-is-dead rumors, depicting Paul (wearing shoes this time) being dragged across the road by his sheepdog.

TOM WAITS The Black Rider ISLAND 314-518 559 (56 min) formance: Harrowing

Recording: Good nagine being five years old, going to the carnival for a splendid day of cotton candy and hilarity, and instead getting accidentally locked in the chamber of horrors-all day, by yourself. That's good preparation for "The Black Rider," a theatrical tour through hell, with your guides Tom Waits and William Burroughs. Loosely based on a work of German romantic literature, "Gespensterbuch," published in 1811, "The Black Rider" revolves around a clerk named Wilhelm, who works a deal with the devil to win the hand of a winsome lass only to lose everything in the bargain. As on his recent albums, Waits mines instrumental sounds from what sounds like the pipeline to the Netherworld itself-menacing bass clarinets, sadistic percussion, homicidal cellos, and marimbas on the lam, His vocals sound drawn across broken glass and rusty nails, and filtered through bubbling blood. That combination, married to Burroughs's lyrics ("Wilhelm's cutting off his fingers / So they'll fit into his glove"), makes for a most unsettling visit. And, depending on your perspective, a visit most tedious. Or brilliant. Probably a little of both.

FRANK ZAPPA The Yellow Shark BARKING PUMPKIN 71600 (72 min) Performance: Weird, wild stuff

Recording: Stell the Yellow Shark" is the sound of musical anarchy in a menagerie. As a 90minute program of nineteen Zappa compositions, it was performed in three European cities in 1992. Like everything else he did, Zappa's orchestral music defies convention, often dissolving rhythm and harmonic relationships to explore the timbral and textural possibilities of the instruments. His approach is omery in its fastidious illogic, but within the hermetic self-invented musical language of Zappa's universe, "The Yellow Shark" makes a perverse kind of sense. If you're willing to suspend "normal" expec-





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Lawren Falall

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Robert Plant—Rock Critic Wannabe?

ormer Led Zeppelin frontperson Robert Plant must have an interesting record collection. Asked to remake garage-rock perennial Louis, Louis for the soundtrack of Wayne's World 2 (Reprise 45485). Plant chose not to emulate the hit Kingsmen version or the lesser-known Richard Berry original, Instead, he picked up on the fabulously obscure 1964 rendition by the Sonics, a Northwest frat band that presaged heavy metal and punk before anyone dreamed of the terms. Cool move, Bob, and a nice topper to your recent recorded exhumations of worthy Sixties songs by Moby Grape and Tim Hardin, Suggested subjects for future research: Red Cravola, Autosalvage, Lothar and the Hand People.



tations of music, it is actually rather entertaining.

Scattered through the program are familiar themes from the Zappa canon, radically rearranged for a small orchestra: Uncle Meat, Dog Breath Variations, Pound for a Brown on the Bus. Each section of the orchestra gets to wrestle with a Zanna composition in its turn. A string quintet saws III Revised into kindling, two pianists gamely tackle the intricate, difficult fingerings of Ruth Is Sleeping (originally composed on and for the Synclavier), and the winds blow abstractly through the ruined landscape of Times Beach II. Several prominent numbers depict in sound the tragic absurdity of contemporary American life and institutions. Chaos, disorder, and contamination infuse such pieces as Outrage at Valdez, Pentagon Afternoon (an unsettling evocation of the military mind-set), Food Gathering Post-Industrial America, 1992 (a snapshot of civilized society's unraveling), and Welcome to the United States (wherein an actual Customs questionnaire posed to arriving foreigners is read aloud while the orchestra honks and rumbles dissonantly). These recurrent jabs at the Motherland are nothing new for Zappa; his scabrous critiques date back to his recorded beginnings and reached a pinnacle of contempt with this early couplet, from Bow Tie Daddy: "American way, try and explain / Scab of a nation driven

That was Zappa—bitingly critical, braveby unconventional, determinedly unsentimental, unwilling to suffer fools gladly. His restless intellect animated his music, which bore distinct messages for all who tuned in: Think for yourself, question authority, don't be afraid to break the rules. In Zappa's world there were no musical taboso or artificial barriers that couldn't be broken down. "The Yellow Shark' is a fittingly peevish and bracing summation of his unparalleled musical overview." PP.



Keeping Tradition VERVE 607 (57 min) Performance: Requiling

Performance: Beguiling Recording: Good first heard singer Dee Dee Bridgewater when she was in The Wiz on Broadway, and I was not impressed. Her subsequent appearance in the musical Sophisticated Ladies didn't do much for me, either. But then came a tenure with the Thad Jones-Mel Lewis Orchestra, and Bridgewater blossomed. Occasionally, she still sounds affected in her delivery, but most of what she does rings true, and she has developed into a fine jazz vocalist. "Keeping Tradition" is a 1992 trio date recorded in France with some European musicians who do their job well. I suspect the liner notes read better in the original French, but for now you won't find a more enjoyable Dee Dee Bridgewater album than this one. ORNETTE COLEMAN

Beauty Is a Rare Thing: The Complete Allantic Recordings RHINO/ATLANTIC 71410 (six CD's, 427 min) Performance: Epochal Recording: Good

This Rubic's Cube of a reissue—Ometic Coleman's complete output for Atlantic from 1959 to 1961 minus an undisclosed number of never-released masters long ago destroyed by fire—is what practically everybody I know was listening to as last year drew to a close, myself included. The same music affording us such pleasure is the same music according us such pleasure is the same music according us such pleasure is the same music according us such pleasure is the same music scorned by many in the waning days of 1959, during Coleman's legendary six-month stand at New York's Five Spot.

"Beauty la 8 Aure Thing' brings together



POPULAR MUSIC

all six of Coleman's Atlantic studio LP's of that time, including the iconic quartet performances with Coleman on alto. Don Cherry on trumpet, Charlie Haden or Scott LaFaro on bass, and Billy Higgins or Ed Blackwell on drums; the spontaneously improvised "Free Jazz" with those six musicians plus Eric Dolphy and Freddie Hubbard; and the earthy "Ornette on Tenor," with Jimmy Garrison on bass. It adds the contents of three albums of odds and ends recorded during the same period but not released until the Seventies (one of these issued only in Japan) and two tracks from Gunther Schuller's "Jazz Abstraction" that represented Coleman's first plunge into the Third Stream. As it was on the original albums, the stereo separation on these six discs is rather severe, but that isn't really a drawback as it allows us to follow the bassists and drummers better as they cleft the beat into different meters.

So much for the facts and figures, though it should be added that the most bracing of the "new" material is I Heard It on the Radio, a fast ballad subjecting the 32-bar popular song form in general to the same sort of inquiry to which Charlie Parker subjected Embraceable You. At a time when the merest hint of a gospel cadence sufficed to establish a musician as a really soulful dude, Coleman threw in the entire church and the surrounding countryside. Suppressing harmony in the interest of melody and rhythm, he burst on the scene sounding like a rural Texas bluesman in an era when musicians prided themselves as much on their urbanity as on their harmonic sophistication. Assailed as both a primitive and an abstractionist (which would seem to be a contradiction in terms), he caught some of that day's most intrepid experimentalists by surprise, because instead of borrowing compo-



Ornette Coleman with Don Cherry



The Ella Fitzgerald "Song Books"set: a monument on sixteen CD's

sitional structures from Europe as they did, he made regenerative use of an older jazz vocabulary of smeared notes and collective improvisation

This is where I'm expected to express bewiderment hat music so vivacious could have stirred such controversy thirty-five years ago. But a juzz enters a phase of boring neo-classical recapitulation, Coleman's Adlantics sound as shockingly fresh today as they must have then. Like most boxed sets, "Beauty Is a Rare Thing" is pricey, but if you claim to like jazz, you can't afford to be without it.

THE Complete Ella Fitzgerald Song Books VERVE 832 (sixteen CD's, 910 min) Performance: Handled with care Recording: Excellent transfers

In the mid Fifties, after five years of trying to wrench Ella Fitzgerald from Decca, where she had been contracted since 1936, Norman Granz, finally succeeded. Ella had scored a few hits, but Granz was convinced that Decca had grossly underestimated her talent and potential appeal to a wider (spell that wh-i-t-e-t) audience, and

he was itching to prove it.
At Decca, Ella's career had been structureless: she frequently recorded silly novcut youngs, and little or no consideration companiments. Granz. changed all that: from the moment she stepped into her first Verve session. Ella Fitzgerald was magicalty transformed into a major interpreter of songs, a diva who would soon have Ameriindebted to her. so f popular manic deeply indebted to her.

It all started with the "Song Books," a series of extraordinary albums on which Fitzgerald—and much of the material she sang—underwent a rebirth. Granz's brilliant concept was to have her devote entire albums to the great twentieth-century composers and songwriting teams. Between 1956, when she premiered the series with the work of Cole Porter, and 1964, when the series ended with "The Johnny Mercer Song Book," Ella Fitzgerald rose to become a major international star. She made other excellent Verve albums, but the "Song Book" series-which also includes albums devoted to the works of George and Ira Gershwin, Duke Ellington, Harold Arlen, Irving Berlin, Rodgers and Hart, and Jerome Kern-remains a monument to her artistry, to American popular music, and to Norman Granz. The accompanimentwhich, in the main, is by Nelson Riddle, Paul Weston, Duke Ellington, and Buddy Bregman-fits Ella like a pair of fine

gloves. Now Verve has assembled all the albums in a single release, "The Complete Ella Fitzgerald Song Books," which contains everything but the vinyl. Sixteen CD's, snugly inserted into miniatures of the original covers and boxes, have been lovingly packaged with the old, somewhat abbreviated liner notes and a new 120-page illustrated hardcover book containing illuminating essays, detailed discographical information, and an index of the 240 songs. It all adds up to over 15 hours of glorious music that ought to be offered on a lavaway plan. because no discriminating pair of ears should be without it.

CHARLIE HADEN Always Say Goodbye VERVE 501 (70 min)

Performance: More movies Recording: Very good

assist Charlie Haden's latest release, "Always Say Goodbye," continues the delicate weave of old and new that he began in 1991 with "Haunted Heart." The new album is a mix of recordings by his

POPULAR MUSIC

current group and music that made an impression on him in the past—not only jazz, but the kinds of earfuls he absorbed listenite to the radio and going to the moving to the radio and going to the moving as a child. It opens with the fanfare Max Sciencer wrote for Wamer Borthers in 1937 and goes right into the music from The Big Science, complete with Digart dialogue. Then the control of the co

by pianist Alan Broadbent. When Lester Young told me that Jo Stafford was his favorite singer I didn't quite understand it, but her perfect pitch has since swayed me. Haden is obviously impressed, too, for Ms. Stafford, who sang the title tune on "Haunted Heart," makes an encore appearance here on Alone Together. Stephane Grappelli joins Haden's group for Where Are You My Love, which is then heard in the 1949 Grappelli/Django Reinhardt version. Other blasts from the past include Duke Ellington's orchestra playing Low Key Lightly, from Anatomy of a Murder-with a superlative violin solo by Ray Nance-and Chet Baker singing Everything Happens to Me. Yes, this is an odd, defiantly eclectic mix, but it works for me, mainly because I like the parts Haden has added but also because he has concocted a blend that is as smooth and tasteful as his playing has always been.

NIMA SIMONE Little Girl Blue BETHLEHEM 30042 (56 min) Performance: In the beginning...

Recording: Very good unice Waymon was singing in a gay bar in Atlantic city when she made her first album for Bethlehem. It was 1958, when working in such places could ruin a career. Fearing that the parents of some of her Philadelphia music students might see her name in the bar's window, she changed it to Nina Simone. I was a disc jockey on WHAT-FM, Philadelphia's all-jazz station when the record came in, and I can recall how the phones lit up each time we played I Loves You Porgy. We told the record company that they had a hit, but they dismissed it as "local rumble." Well, it wasn't local for long, and to hear her magically wed her supple vocals to an absorbing, slightly Brubeckian piano style on this CD reissue of her debut recording is to understand why Nina Simone quickly became a household

"Little Girl Blue" is one of those rare albums that keeps on giving with every track. Listen to the way Simone builds up Low Me or Leave Me, for instance, or to her incomparable reading of My Baby Just Cares for Me. The CD contains three bonus tracks, none of which are merely alternate takes.

Because so much happened to and for Nina Simone after this album first appeared, I wish the reissue producers had updated the original liner notes. The music, however, holds up. Don't leave a record store without it. C.A.

QUICK

CASHMAN & WEST

The AM-FM Blues (Their Way best)
ARZOR & TIE 'D992' 20082 (70 min)
Before these guys got rich producing
Before these guys got rich producing
ately successful as a sort of poor man's
James Taylor times two. But this recommend
ately successful as a sort of poor man's
James Taylor times two. But this recommend
were the successful as a sort of poor man's
James Taylor times two. But this way
more appealing—and a lot funnier—than
one remembers. Case in point: the
uninely clever title song, a lament (no kidding) about Rann's Newman's lack of

DANKO/FJELD/ANDERSEN RYKO 10270 (46 min)

As the liner notes point out, if Rick Danko, co-lead singer of the Band, folk legend Eric Andersen, and Norway's Jonas Fjeld had gotten together in the Sixties, they would have been called a Supergroup. And, just as likely, their album would have seemed more contemporary. This collection of reworked folk, country, and R&B has its moments, but the singing never attempts to thrill, the contemporary and some things of the contemporary of the size of the country, and some things of the contemporary of the size of the contemporary of the contemporary of the contemporary of the country and some things of the contemporary of

GEORGE GERSHWIN Geshwin Plays Gershwin—

The Piano Rolls

ELEKTRANONESUCH 79287 (61 min)

Engineering wizardy, digital magic, and

the technology of the Yamaba Disklativer

have converted Gernhwin's own pianoroll performances of An American in

Paris and Rhapsody in Blue plus ten

songs into totally convincing, authentic

"live" performances in up-to-date sound.

S wonderful! William Livingstone

ANNE MURRAY

SBR 270/2 (61 min)
Inspired by the singers who were her childhood idols—Patti Page, Doris Day, Jo Stafford, Bing Crosby, Ferry Como—Anne Murray sings eighten songs they made famous. Besides love and respect, she brings to the project her well-known agility, vocal beauty, and supreme breath control. A worthy tribute.

W.L.

Live '93

ISLAND 31451 87462 (two CD's, 140 min) Disco music for drug-addled twentysomethings? Or the most scintillating live set since the original-cast album of Mummenschanz? You make the call. S.S.

PSYCHOGRASS

WINDHAM HILL 11132 (63 min)
This highly eclectic album might be considered New Age, but mostly it's sophisticated jazz-bluegrass with classical over-tones and Latin, African, Indian, and Pan-Pacific rhythms woven throughout. A sense of humor, too—check out the soulful version of Whiter Shade of Pale, with new tongue-in-check lyrics. A.N.



RE/SEARCH: INCREDIBLY STRANGE MUSIC, VOLUME I CAROLINE 1746 (40 min)

Obscure novelty songs from the Golden Age of early stereo, most of which live up to the album's title. Pick hit: Rajput and the Sepoy's sitar and piano version of Up. Up and Away. Consumer note: all selections mastered—clicks and pops intact—from original vinyl. S.5.

SHONEN KNIFE

Rock Animals

VIRGIN 39063 (49 min)
Remember the twin six-inch princesses
who talked and sang in unison in the
Japanese monster movie Mothra? Well,
this is what they would have sounded
like as a punk band. 5.S.

RANDY TRAVIS

stampede a calf

WARNER BROS 45319 (29 min)
Now that it's become politically incorrect
to refer to country music as "country &
western," what trend should be developing but a return to cowboy tunes. Randy
Travis is the first major name to jump on
the chuckwagon, and while he brands
these tunes with his supple baritone,
there isn't enough excitement here to



R.G.

CHRIS VON SNEIDERN Sight & Sound

HEYDAY 032 (46 min)
Superior Brit-Sixties-influenced formalist power-pop, all jangly guitars, soaring choruses, and Marshall Crenshaw-esque lead vocals. A genuine find.

S.S.

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CLASSICAL MUSIC

ROBERT ACKART,

BARTOK: The Miraculous Mandari Two Portraits: Divertimento

Montreal Symphony, Dutoit LONDON 436 210 (68 min) mance: Good to excellen Recording: Mellow

ntal Dorati's 1983 London recording of the complete Miraculous Mandarin with the Detroit Symphony Orchestra is gone now, but anyone who has a copy is probably still using it as a favored demonstration disc. Charles Dutoit's new reading is by no means too reserved or refined, but neither the performance nor the recording itself, good as they are-which is very good indeed, with the Montreal Symphony Chorus especially well placed-makes that sort of impact. Among current versions, though, it would be



my choice, and the other two works on the disc are a good deal more persuasive. Dutoit is very much "inside" the Two Portraits, relishing their colors and contrasts,

and the violinist Chantal Juillet is a most sympathetic soloist in the first and longer one, which Bartok salvaged from the earlier work that was restored some years after his death as his Violin Concerto No. 1. The Divertimento for String Orchestra (1939), the last orchestral piece that he composed in Europe, is surely the most ingratiating of his major works, with a glorious mix of earthy vigor and suave elegance, playful wit and unfeigned warmth of heart. Dutoit's response to it is unreserved in enthusiasm and unsurpassed in polish; his solo players abundantly deserve their printed credits, and the mellow transparency of the recording suits this work down to the ground.

BESTHOVEN: Symphony No. 9 ("Choral")

Soloists; Choruses; Leipzig Gewandhaus Orchestra, Masur PHILIPS 432 995 (66 min) Performance: Virile Recording: Spacious, full-bodied

BEETHOVEN: Symphony No. 9

("Chorai") Soloists: Chorus: Royal Concertgebouw Orchestra, Sawallisch

EMI 54505 (68 min) ance: Well-mann

Recording: Decent live pick-up

Murt Masur's new Beethoven Ninth is a studio recording made during the Leipzig Gewandhaus Orchestra's 250th anniversary season, and Wolfgang Sawallisch's derives from Amsterdam concert performances in December 1992, but recording methodology isn't the only thing that distin-

guishes them. Masur's first two movements are full of virility and purposeful energy, with tempos that are based on the new Critical Edition of the score (though well within traditional guidelines). To my ear, the result is eminently satisfactory, and he sustains a richly singing line throughout the slow movement, neither letting the music sag nor hurrying it unduly. The Leipzig Radio Choir and Gewandhaus Children's Choir display impressive body and discipline in the ever-challenging finale. The soloists-soprano Sylvia McNair, contralto Jard van Nes, tenor Uwe Heilmann, and baritone Bernd Weikl-acquit themselves splendidly for the most part (I would have liked a bit more heft in the famous opening solo than Weikl musters) and are well matched in the ensembles. In terms of spaciousness and body, the recording itself is as handsome as one could wish. Overall, this Philips CD ranks among the

RENAISSANCE HIGH JINKS

on't be put off by the terrible pun in the title of the Baltimore Consort's new CD. "La Rocque 'n' Roll." Laroque Galllarde is the name of one of the tunes, and the perpetrators were simply trying to point out that this is a recording of popular song-and-dance from Renaissance France.

The point is well taken. Pop music. even from 1571, should embrace a certain, well, lole de vivre. The Baltimore Consort has that in abundance.

Many of the selections here are simple melodies elaborated by the composers and performers. This is music with rustic origins, and the peasant stomp has not yet gone out of it. There are also classic fentasies about unrequited love.



nymphs and shepherds, and a tumble or two in the hay. Sometimes pastoral romps, hymn tunes, drunken revels, children's rhymes, and battle songs get a bit mixed up, but that's the way it was back in the days of Rabelals.

None of it is performed with a long face or an overdose of concern about the composers' intentions. These performers intervene at every moment and make it all theirs. I would say that their versions are closer to the real spirit of the music than any academic reconstruction

There is one potential that is missed. Like real rock-and-roll, much of this music is about sex-usually from a man's point of view. Custer Le Rue, the group's wonderful soprano, is heartrending on the subject of a young woman forced to become a nun, but when singing about cuckoldry or sexy shepherdesses in the hay, she is a bit abstract. Fortunately, everything else is perfectly convincing and charmante. The others in the group play flutes, lutes, viols, guitars, recorders, crummhorns, bagpipes, even a drum. I don't know if this is the best oldmusic group in the country, but it is certainly the most fun. E.S THE BALTIMORE CONSORT

La Rocque 'n' Roll DORIAN 90177 (78 min)

A Star-Studded "On the Town"

n the Town, with music by Leonard Bernstein and book and lyrics by Comden and Green, is a wonderful piece of vintage New Yorkana, and the starstudded new recording led by Michael Tilson Thomas is fully worthy of it. Although often called a landmark, On the Town wasn't really a radical departure for Broadway. On the contrary, it was squarely in the tradition of some of the great New York musicals of the Twenties and Thirties with its sophistication, swift satire, revue-like form, jazz flavor, and, ultimately, good heart. But what form,

what flavor, what heart! That form and flavor-and the heartwere heated up and melded in a crucible filled with swing, big-band lazz, blues, and modernism à la Prokofley, Stravinsky, and Weill, but all seasoned in the inimitable Bernstein manner, in that combination of classical and pop/jazz that is so potent in his work. The originality and impact are not in the form but in the way things are put together as well as in the energy and intensity.

The new recording has it all together too. Thomas is a conductor in the Bernstein mold and equally at home in both worlds. He assembled a truly astonishing mixed cast for the London concert performances from which the Deutsche Grammophon CD was taken: Frederica von Stade and Tyne Daly, Thomas Hampson, Kurt Ollman and David Garrison. Those are just the leads. The supporting cast includes some promising

kids by the name of Samuel Ramey in three smaller roles, Cleo Laine and Meriel Dickinson as two night-club singers, Evelyn Lear as the "No sex, girls" singing teacher, and co-author Adolph Green as a Coney Island pitchman. No kidding!

Unlike some opera-singer ventures into Broadwayland, there is nothing operatically false about this crossover casting; in fact, it works brilliantly because most of the casting is quite appropriate. Okay, Ramey is not quite believable as a dock worker, but Von Stade makes a hilarious anthropology professor, and Lear's Madame Dilly is certainly a dilly. This diverse group of star singers and outstanding personalities somehow adds up to an idiomatic ensemble that is perfectly at home with those crafty Bernstein rhythms and vocal lines and that works together seamlessly. In many ways, the star of the show is Hildy-the predatory taxi driver Brunnhilde Esterhazy-and Tyne Daly is the quintessential (if somewhat breathless) Broadway beiting babe. The contrast with the vocal variety all around her is in no way disturbing but contributes to some kind of cockeyed unity-Broadway to the nth degree but still recognizable as Broad-

way, and in one of its finest moments. This is the show from which not only New York, New York comes but also the hilarious Carried Away and the exquisite Lonely Town. A special feature of the recording is the restoration of three num bers cut from the original. The vocal numbers are cool, but it is the dance sequences that really steal the show, not only on stage but musically as well. The years have not diminished the freshness of the music (orchestrated mostly by the amazing Hershey Kay, although four other orchestrators also worked with Bernstein), and it is a pleasure to hear it so well performed, recorded, and mixed. London's symphonic musicians (and choral singers) can now apparently handie this stuff as well as Americans, and Thomas gets maximum energy and punch from first-rate performers. The live recording is mostly but not always letter-perfect; in any case, the energy of a real performance more than makes up the difference. FS

BERNSTEIN: On the Town Soloists; London Symphony, Thomas DEUTSCHE GRAMMOPHON 437 516 (75 min)



With respect to the Sawallisch, my gut feeling is that both the performance and recording would have fared better under controlled studio conditions. The performance seems altogether too polite and well-mannered next to Masur's, and I was decidedly put off by the legato treatment of the double-bass recitative at the start of the finale. The soloists-soprano Margaret Price, mezzo-soprano Mariana Lipovsek, tenor Peter Seiffert, and bass Jan-Hendrik Rooteringare individually excellent but not quite as well matched as Masur's quartet. Rootering's bass is more convincing than Weikl's lightish baritone, however, and Price is outstanding in the final ensemble. The recording conveys a sense of the forces involved. particularly as regards lateral imaging, but it is not as well focused as the Philips. D.H.

BLACKWOOD: Symphony No. 1 Boston Symphony Orchestra, Munch Symphony No. 5

Chicago Symphony Orchestra, DePreist CEDILLE 90000 016 (58 min) Performance: First-rate Recording: Good

student of Messaien, Hindemith, and Boulanger in the early 1950's, Easley Blackwood has been on the University of Chicago music faculty since 1958-prominent as a composer, a researcher into the more subtle aspects of harmony, and a superb interpreter of early twentieth-century piano music. During the thirty-five years separating his First and Fifth Symphonies. he explored avant-garde styles but eventually rejected them in favor of his own brand of mainstream conservatism.

The Symphony No. 1, from 1955, was recorded by the Boston Symphony under Charles Munch thanks to a Serge Koussevitzky International Music Fund Award (the recording was originally released by RCA in 1960). It stands up remarkably well, not only as an example of the American symphonic aesthetic prevailing when it was written but simply as a piece of music. The opening movement, introduced with a dissonant proclamation, is very well put together and highly effective in its contrasts. The slow movement, growing out of a unison melody for winds, is the best of the four, though I also enjoyed the scherzo, whose two-part counterpoint is reminiscent of Mahler and Shostakovich. The broody, rather free-form finale ends in a fadeout, but it's no letdown. The performance is su-

perb, and the sound holds up very nicely. The three-movement Fifth Symphony is unabashedly neo-Romantic and less highly charged than the First, but effective in its own quiet way. I sense echoes of British pastoral in the opening movement. A long melodic line, with prominent oboe cantilena, lends special appeal to the somber slow movement, which also features subtle textural references to the Dies Irae plainchant. The finale is Mendelssohnian, with echoes of the "Italian" Symphony. The performance, recorded in concert at Chicago's Orchestra Hall in 1992, is completely satisfying. D.H.



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ELGAR: Violin Concerto

Zukerman; Saint Louis Symphony, Slatkin RCA 61672 (51 min)

Performance: Romantic Recording: Excellent

and a generation or two ago, condistors were born on making Elgar's music seem more "manly," emphasizing its elements of particle bombast and downglayments of particle bombast and downglayinverted, and Leonard Slutish vents the music's expressive sides to liberally in this performance that it resembles one of Mahler's sic's expressive sides to liberally in this performance that it resembles one of Mahler's the control of th

Given Sukta's approach, Pinchas Zakmann is an odd roboc as soloist. He rarely lets even the most feverish music ruffle his composure or alter his consistently suave. In 1 seem up to the heroic aspects of this long concerto, such as in the cods of the first movement. But his reading of the affectionconcerto, while not the soloist of the first movement. But his reading of the affectionseems caught up by Stakti'n is passionate conviction. While Nigel Kennedy's Estl recoding remains the best modern vession of the concerto, admirrer of Dakatris previtable one. December 2012 of the control of the concerto, admirrer of Dakatris previtable one. December 2012 of the control of the concerto. Admirrer of Dakatris previtable one. December 2012 of the control of the concerto.



NAYDM: The Seasons Soloists; Chicago Symphony Chorus and Orchestra, Solti LONDON 436 840 (133 min, two CD's)

Performance: Very good Recording: Excellent Georg Solti's recordings of Haydn symphonies have sometimes conjured up

of moments have sometimes conjuned up to old images of Godzilla trying to polka. Mcould he be expected to scale his vision down for music as modest and sunny as Haythin. But over and over in Solit's recording career, he has confounded his critics when it comes to works involving vocal rarraive. The series of freituresque musical vigneties of country life that make up The proport to the proposition of the contraction of the contraction

The result is a highly competitive recording. The Chicago Symphony Chorus and Ochesina are self-recommending, were if their performance occusionally, overloads their performance occusionally, overloads their performance occusionally, overloads the relatively stender orchesization. And Irilmann, and Rent Pape—aren't the biggest learning of their performance and display a wonderful sense of ensemble, both with the chosen and mong themselves. All-with the chores and mong themselves. All-with the chores and mong themselves. All-with the chores are not performed to the chores of the



MAHLER: Symphony No. 3 Van Nes; choruses; Berlin Philharmonic, Haitink PHILIPS 432 162 (103 min, two CD's) Performance: Good to superb

Recording: Very good

"symphony should be like the world."

Mahler once observed to Jean Sibelius. "It should embrace everything." His amazing Symphony No. 3 certainly exemplifies that dictum, and these days it does not lack for fine recordings.

Bermard Hainink's handling of the blaring horn summons at the start and the subsequent orchestral growlings and preclamaquent orchestral growlings and preclamations of the subsequent of the subsequent of the profromance, but once the main body of the movement, with its justry march rhythms, is under way the performance goes from strength to strength. The busculis second temporal that are flexible but never mannered—a true song without words. The airmospheric schemach on woment, with its commed-puthetic sackson ong and husning to the subsequent of the subsequent of the beard it, and the orchestral outburst at its

end conveys a genuine sense of terror.

The contrallo Jard van Nest makes her solo in the fourth movement—the Midnight Song from Nietzsche's Zarahustra—an infanitely moving musical and poetic experience. The women of the Ernst-Senff Choir and the Tolz Boys' Choir are beautifully balanced and elegantly imaged in the fifth movement's always delightful "Bimm homen" chosen.

Haitink and his players are in peak form in the great slow movement that concludes the symphony. The husshed opening can only be described as awesome, and passion remains suppressed until the rucuial turning point signaled by the excruciating orchestral outcry, after which redemption is sure. Even if this recording had nothing else to

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PUCCINI: Manon Lescaut Soloists: Metropolitan Opera Chorus and

alone.

Orchestra, Levine LONDON 440 200 (two CD's, 120 min)

Performance: Variable Recording: Outstanding

he years that have passed since Mirella Freni's 1984 Deutsche Grammophon recording of the role of Manon have not been kind to her voice: Her vibrato has loosened, and her intonation has become less dependable. There is still much to admire in her portrayal, particularly her gripping realization of the final scene, but the illusion of vouth is gone. Luciano Pavarotti's Des Grieux, too, is admirable in many ways. His tone is uniquely gleaming, his diction exceptional, as always, and the rueful "Ah Manon, mi tradisce" rings out with persuasive power. In contrast to those virtues we must accept certain explosive tendencies in his legate and instances of less than refined phrasing.

The strong ensemble features the excellent Lescaut of the baritone Dwayne Croft. who makes much of his second-act arietta. and the Geronte of Giuseppe Taddei (born 1916!), whose characterful portraval triumphs over waning vocal resources. The cameo contributions of Cecilia Bartoli (Musician), Ramón Vargas (Edmondo), and other Metropolitan Opera stalwarts are valuable, if rarely scene-stealing.

After a somewhat hectic treatment of the opening scene-a problem for most conductors-James Levine presides over a broadly paced, steady, and generally admirable account. He revels in the contrapuntal richness of the orchestral intermezzo and unleashes a heart-breaking finale. The orchestra is captured at its best. I find his leadership more satisfying than Giuseppe Sinopoli's in the DG set, but Sinopoli's lead singers (prime Freni and Domingo) earn my vote.

RESPIGNE: Ancient Dances and Airs. Suites I and III; The Birds; Three Botticelli Pictures

Orpheus Chamber Orchestra DEUTSCHE GRAMMOPHON 437 533 (69 min)

Performance: Grateful

Recording: Tasteful espighi was a very schizophrenic com-Respigm was a very scanned and the Rimsky-Korsakov and addicted to big, colorful, post-Romantic orchestral frescoes. On the other hand, he was also a connoisseur of early music, and his arrangements of it-including The Birds and the Ancient Dances and Airs-are, however quirky, forerunners of the early-music movement. Three Botticelli Pictures, which interprets the Florentine painter's masterpieces Spring, The Adoration of the Maoi, and The Birth of Venus, is one of the few works that successfully blend the two sides of his personality; a basic classical chamber orchestra is augmented by bells, celesta, triangle, harp, and piano, and the evocation of antiquity is tastefully enhanced by some very modern washes of color. Judging from these performances by the New York-based Orpheus Chamber Orchestra-an orchestra without a conductor-this music, although hardly profound, must be as grateful to play as it is to listen to.

ROSSINI: Il Viaggio à Reims Soloists; Berlin Philharmonic, Abbado SONY S2K 53336 (135 min, two CD's)

Performance: Sparkling Recording: Very good

ne revival of Rossini's pseudo-operatic pageant Il Viaggio à Reims (The Voyage to Reims) was the sensation of the 1983 Rossini Festival in Pesaro, Italy, Deutsche Grammophon's live recording with a group of stellar Rossinians and the Chamber Orchestra of Europe under Claudio Abbado earned fairly unanimous plaudits. Now anchored in Berlin, Abbado assembled a similarly distinguished cast for a series of performances and this recording with the Berlin Radio Chorus and Berlin Philharmonicand scored again. The orchestral execution is, as before, superb. There are occasional imperfect audio balances but nothing of a damaging kind, though to me Sony's highly touted Super Bit Mapping recording technology offers no noticeable improvement

Among the Pesaro veterans, the basses Samuel Ramey (as the dotty English Milord) and Enzo Dara (as the German musical pedant) are as good as ever. Ruggero Raimondi (Don Profondo, the rabid collector of antiques) has lost some of his tonal luster since the earlier recording, but he still delivers his irresistible patter aria with consummate gusto. That comic spirit is shared by Lucia Valentini Terrani (Marchesa) and Giorgio Surian (Don Prudenzio), but neither sings with the tonal steadiness of years past.

over DG's sonics.

Outstanding among the newcomers is the delightful and virtuosic soprano Sylvia Mc-Nair (Corinna), whose extended duet with the dulcet-voiced tenor Raul Gimenez is one of the set's many highlights. Cheryl Studer (Madame Cortese) surpasses her DG counterpart in the accuracy of her coloratura, a quality she shares with soprano Luciana Serra (Countess Folleville), though Serra's brilliance is less consistent. Tenor William Matteuzzi displays a thinnish sound, but his upper extension is seemingly limitless

Everyone seems to have entered into the ioyous spirit of this exceptional brainchild of Rossini. The production moves smoothly, and the well-deserved applause appears only at the end. Both old and new versions of II Viaggio are recommended; you cannot lose with either.

SHOSTAKOVICH: Piano Quintet: Four Waltzes; Piano Trio No. 2 Nash Ensemble VIRGIN 59312 (70 min)

Performance: Crisp Recording: Excellent e increasingly popular coupling of

Shostakovich's big-boned Piano Quintet and his more anguished Piano Trio No. 2 is augmented here with four witty, breezy

his film scores and ballets never crack, yet the music always seems on the verge of a

The Nash Ensemble's performances of the quintet and trio compare well with the others available. The recorded sound is far better than in the classic account of the quintet by Sviatoslav Richter and the Borodin Ouartet on EMI, and the Nash players have more experience as an ensemble, which enables them to reveal more of the music's glinting, metallic edges and the piquant voicing tricks that Shostakovich sprinkled through it. Their performance of the trio, slightly slower than the equally excellent one by the Beaux Arts Trio on Philips, is well-thought-out, highly personal, and, again, executed with great precision, making this release as enjoyable as it is im-DPS



WAGNER: Das Rheingold

Soloists; Bayreuth Festival Orchestra, Rarenhoim TELDEC 91185 (149 min, two CD's)

erformance: Very good Recording: Effective he first recorded installment of the 1991 Bayreuth Festival Ring cycle conducted by Daniel Barenboim, this performance was released simultaneously on videotape and laserdisc. Considering that it was recorded at a public performance, the results on CD -even the extraneous stage noises-are extremely effective, providing a real "you are there" experience. Barenboim revealed himself as a formidable Wagner interpreter in his 1991 Berlin Parsifal recording (also on Teldec), and he is no less of one in this Ring-cycle prologue, which maintains an excellent sense of flow from its beginning in the depths of the Rhine to its end with the

entry of the gods into Valhalla. The characters of Wotan, Loge, and Alberich are the underpinnings of any Rheingold, and these roles, as well as the others, are remarkably well cast here. John Tomlinson's Wotan seems less the imposing king of the gods than the Nietzschean "human, all too human" caught in the web of his own broken promises. Günter von Kannen doesn't sound as malevolent as some Alberichs I have heard; as with Tomlinson's Wotan, a human dimension-even pathos-shows through. Graham Clark is quite an extraordinary Loge, going beyond the character's mere trickster aspect to convey something of

the "motiveless malignity" some ascribe to Shakespeare's Iago. And it is good to hear Alberich and Loge sung rather than snarled. Helmut Pampuch delineates Mime to fine effect, Linda Finnie gives us a stately and knowing Fricka, and Birgitta Svendén, as Erdá, handles her brief but crucial assign-

ment very well indeed. The Bayreuth Festival Orchestra responds splendidly throughout, and if the recording does not quite match the vividness and refinement of Georg Solti's pioneering 1959 London set, it is highly effective on its own terms.

The new, 1994 edition of this critical discography of the most often performed symphonic music is now available To receive your copy, send a self-addressed business-size (#10) envelope, stamped with 52¢ postage, and a check or money order for \$3 payable to Stereo Review (no cash, please), to The Basic Repertory, Starge Review, 1633 Broadway, New York NY 10019. Orders from outside the U.S. must be accompanied by a self-addressed envelope and \$4 (payable in U.S. funds).

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LASSUS: Lagrime di San Pietro Huelgas Ensemble, Van Nevel

SONY 53373 (62 min) The final and largest work by the late-Renaissance composer Orlandus Lassus (or Orlando di Lasso or Roland de Lassus), Lagrime di San Pietro (Tears of St. Peter), is a landmark setting, in twenty madrigals and a concluding motet, of Luigi Tansillo's heartfelt meditation on the life of St Peter. Some listeners may object to conductor Paul Van Nevel's discreet doubling of some of the voices with brass, but the performance is luminous.

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ANGEL 54883 (79 min) With a first-rate cast of operatic and musical-theater singers, including the baritone Thomas Hampson, John McGlinn's latest recording of classic American musicals using the original orchestrations proves again how genuinely classic they are. The selections span Jerome Kern's career, from 1912's The Red Petticoat through 1939's

Very Warm for May, neatly mixing wellknown songs with less-familiar gems. The sound is splendid, and the detailed notes are a treasury of their own. Roy Hemmins

TOLIA MIGENTS

Vienna Vienna Volksoper Orchestra, Schifrin ERATO 92875 (58 min)

With sympathetic accompaniment by the Vienna Volksoper orchestra, ably led by Lalo Schifrin, the soprano Julia Migenes performs fourteen arias from Viennese operettas, singing stylishly and with infectious verve. She is less comfortable with those requiring perfect technique (the "Laughing Aria" and Czardas from Die Fledermaus, for example), but the more straightforward excerpts from Wiener Blut. The Merry Widow, and The Opera Ball are very enjoyable, and the rest are sung with seductive warmth.

LEIGH HOWARD STEVENS Marimba When

DELOS 3142 (61 min)

The unusual acoustic characteristics of the marimba impart an ethereal quality to Leigh Howard Stevens's performances of beautiful pieces composed for children by Debussy, Khachaturian, Schumann, and Tchaikovsky. The recording is not limited



to children in its appeal, and it bears frequent replaying. William Livingstone

A BAROQUE CELEBRATION New York Kammermusiker, Pederson

DORIAN 90189 (61 min)

The New York Kammermusiker, or Chamber Musicians, are all, save a harpsichordist and a percussionist, double-reed players. Oboes and bassoons make up what the poets of the golden age of the Baroque would have called a "plangent" ensemble-penetrating, piquant, sometimes dancey, sometimes lyrical and sad, sometimes comic and folksy, sometimes formal and out-of-doorsy. The selections here-arranged from various sources, including suites from operas by Purcell and Lully and Handel's Water Music-are a bit flattened out by the uniformity of the sound, but everything works pleasantly in these sturdy performances.



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Jerry Hadley

The tenor who held Elvis's guitar



y night, Jerry Hadley is more normal than one would ever expect an operatic tenor to be. He drives himself from his home in rural Connecticut, where he lives with his wife Cheryll and two sons, down to the Metropolitan Opera, where he's likely to be heard singing his usual lyrictenor roles: Lenski in Tchaikovsky's Eugene Onegin, Tamino in Mozart's The Magic Flute, or Nemorino in Donizetti's The Elixir of Love. He doesn't prepare for performances as if they were high holy days, he told me when we spoke at his home a few months back, "If your art is so fragile it can be easily thrown, it's not art!"

not art!"
By day, however, Hadley is hardly a dutiful supporter of the operatic status quo. He's more steet-smart and worldly than his fresh-faced, I-gree-up-in-Peoral (which he did) looks would suggest. His opinions are precise. His approaches are thoroughly considered. He needs those qualities, because however normal his opera-house life is, his recording life shows him charting a course through options few other opera singers have do

consider. In a recent flurry of recording activity that included Mozart's Così Fan Tutte (Telarc) and Gounod's Faust (Teldec), he also put together a Frank Sinatra/ Jimmy Webb-inspired collection of pop standards with big-orchestra arrangements titled "In the Real World" (released by RCA in February), researched a projected RCA album of arias from forgotten American operas, and recorded (also for RCA) a collection of op-

collection of operetta arias titled "Golden Days" that includes a posthumous duet—Natalie Cole

style—with Mario Lanza. He offers no aptogies for his crossover efforts, even though some critics might think be hould—at least for his might think be hould—at least for his maligned Liverpool Oraciro. The critics aren't the ones buying the recordings." Hadley said. "From my point of view, it was one of the greatest creative experiences of my life and something Til. MCCartracy alto let him hold his prize cause with the desired price of the control of the price of the

Recalling "the success I've had with recordings of *Show Boat* and *Candide*," he called these shows "part of my cultural heritage. [Performing them is] what we've grown to expect from operatic tenors. When you go to a conservatory to study classical music . . . you get a little bit of tunnel vision. You become judgmental—as opposed to discerning."

The forthcoming "Golden Days" alburn is hardly just another glance back at turn-of-the-century kitsch.

BY DAVID PATRICK STEARNS "We wanted to evoke 'The Age of Innocence,' the ambience of New York City when that kind of music was in vogue," he said. "We tried to recreate the theatrical orchestra of that time-some of the songs are orchestrated as if they're being played at a Central Park band shell. Another is an old-time vaudeville number, I Love to Go Swimmin' with Women, which I do as a duet with Tony Randall. The Lanza duet was an afterthought. RCA owned the existing tracks of Lanza singing Golden Days in a wonderfully personal and intimate way. I had to allow that intimacy to influence the way I did the part on my own."

the part on my own. Hadiley has no intention of minimizing his opera career. His interest in future roles ranges from the vocally florid bel canto operas of Donizetti to slightly heavier fare such as Britten's Peter Grimer. And though the grand egos, increasant travelling, and foreign-language barriers of the opera world make his life more difficult than he ever imagined it would be, Hadiley has worked too hard to

get to the top to quit.
"When I was at the University of Illinois, I was never the one of whom people said, 'Wow, that's a great voice.' I worked really hard to learn how to sing. I

was never a contest winner."
But nonoperatic work was offered to
Hadley almost as soon as his career developed, because his voice is unusually
focused and lytical, requiring little technical adjustment for lighter music. In
terms of vocal qualities, he's never heard
that much difference between what he
does in opera and what John Raitt did in
The Pajama Game. He is, of course,
keenly aware of the stylistic difference.

keenly aware of the spitainic difference.

"I don't believe in a one-size-fits-all approach. Vos can't sing Broadway musicals with the same kind of vocal stance or thrust that you use for Paccini's La Bocheten. But the work that I've been doing in migrantic ventures has improved a programment of the standard of the standard s

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HIGH END

Break-Ins

o augment the Magneplanar loudspeakers recently installed in the Yellow Room ("The High End," January 1994), I have ushered in a 220-watt Parasound HCA-2200II power amp, largely to see how the Maggies fare in different electronic environments. The Parasound, a design of the celebrated John Curl, seemed an apt choice, and a practical one, its cost of about \$4 per watt making it a high-end bargain. Of course, since the Maggies are noteworthy for the amiable, relatively nonreactive load they present, and since the Curl creations are intended to be unflappable in the face of the worst sorts of loads, it may seem that the pairing was chosen to give the overall system an unrepresentatively easy time of it. Not to worry, however. If trouble is sought, getting it from a new, essentially untried audio system seems always to be an effortless affair.

In this instance, the complaint provoked can be described only in subjective terms, and would not be worth describing at all if it had not been so unexpected. Superior or at least equivalent performance to that of the former match-up had been expected from the outset, and it was bewildering when things immediately took a different turn. Principally, the impression was of a spatial jumble-a lack of focus and coherence-that made me imagine the midrange panel had been moved several inches further from the tweeter, and perhaps buggered in phase with it as well. It was not the sort of thing I ever expect to hear from a new amplifier, and for once it sent me straight to the operating manual to see if perhaps some intricacy of setup had been ignored. There I discovered the following: "Like other great power amplifiers, the HCA-2200II requires at least 72 hours of continuous operation after it is first turned on to sound its best." Here was indeed something that had been ignored, but what was it precisely?

Many audiophiles have long believed that new equipment needs a break-in period before a degree of operational stability is achieved, and for devices having mechanical aspects it is easy to view their case sympathetically. Even Magnepan states that the Yellow Room's new speakers will drop somewhat in resonance frequency with age. But for a modern amplifier, whose stability is-or had better be-imposed and regulated by essentials of proper design, there is far less reason to expect that many trips around the block and an oil change are in order. In fact, I have never seen such a process suggested in any other manual. I called Parasound to learn just how I should best proceed (a simple passive burn-in was fine, the company said), and in time I was able to persuade myself that I was hearing substantial improvements. I was not, however, able to persuade myself that I wasn't also just hearing "things"things of the notoriously susceptible audiophile imagination. So I began inquiring of people who take the objective reality of such things very seriously and who believe they exist for all who pay attention to hear.

John Curl himself seemed as good a source as any. A physicist as well as an engineer, Curl was not actually the author of the Parasound break-in advisory, but he seemed quite comfortable with its existence. "You simply have to take certain things on faith."

he remarked. "If a thing seems to work out in some particular way, so be it." He then described a problem he had encountered with humidity in fiberglass circuit boards, requiring the moisture to be baked out over time before a design would behave. He also cited the well-rehearsed mysteries of capacitor forming (it is simply not cost-effective for an amplifier company to electrically "form" capacitors to their ultimate performance characteristics during manufacture, so the end consumer is made to do the forming unwittingly in the process of using the equipment), and even the forming of simple electrical connections, presumably subject to expansion and contraction through thermal and other stresses. He emphasized throughout that physics in no way denies the possibility of perceptible sonic alterations occurring during these seemingly minute stabilizations. Others have suggested even more infinitesimal considerations.

esistinal considerations.

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RALPH WARREN HODGES, JR. (1943-1994)

"Break-Ins" is the last piece Ralph Hodges wrote for STEREO REVIEW before he died, of cancer, on January 7. He was fifty years old.

Balls had been associated with this magazine since 1969, when he was appointed Associate Technical Editor. A few years and amany articles and columns later, he became Technical Editor, a position he held usual he decided to move to California and a job with a several articles for Strams Revurse, and the became a regular contributor in 1948, when he began writing a new monthly column called "The High End." The column was his for the began writing a new monthly column called "The High End." The column was his for the way to approach the sixty he affected the into first the way he approached his splicet.

Some years ago, an editor here asked Rajh if he could define "audiophile." After a little thought, Rajht replied, "No, I can't define it, but I am one." And so he was. His family, friends, and colleagues also remember him as a gentle, generous man who loved masic and good sound and did what he could to help others understand and love it too. We will miss him greatly.



from Stereo Review (Julian Hirsch)

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from THE BAS SPEAKER

THE PUBLICATION OF THE BOSTON AUDIO SOCIETY (David R. Moran)

"All [RDL speakers] use Allison's unsurpassed, strangely unimitated convex tweeter . . . its . ultrawide radiation and airy imaging may be even more uniform than in previous implementations . . in over a dozen measurements, the RDL tweeter consistently ran ± 2 dB from 1–2 kHz to around 18 kHz."

from the LosAngelesReader (Laurence Vittes)

"RDL Acoustics' new line of speakers can bring an orchestra into your living room . . . [The FS-1's have] amazing ability to reproduce demanding full orchestral sound without a trace of digital harshness."

from the Chicago Tribune (Rich Warren)

"Roy Allison . . designed each speaker model for a specific placement . . We placed the F-1 three inches from the back wall and played music with plenty of bass. I played naturally without bore or exagerated bass. It sounded clear, crisp and tonally well balanced . . . In contrast, the FS-1 [is] smooth, well-balanced and natural when located at least two feet from the wall.

"Most companies cheaply finish speakers in the F1/FS1 \$549 per pair price range. RDL extravagantly finishes the speakers in a rich lacquered real cherry veneer."



The RDL F-1 speaker, one of five models priced from \$198 to \$549 a pair.

Exclusive Designs by Roy Allison

FACTORY-DIRECT SALES

RDL speakers are sold directly from our factory on a 30-day trial basis. There is no retail markup. We also sell Philips, Sherwood, and other brands of electronic products and accessories, as well as complete systems.

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